

CULTURAL THEORY
AND HISTORY:
INNOVATION
AND SUBJECTIVITY

Magdalena Kamińska
Olga Urban

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Prof. dr hab. Jan Grad

TRANSLATION
Marcin Turski (Magdalena Kamińska)
Magdalena Górna (Olga Urban)

PROOFREADING
Colin Philips

COVER DESIGN
Adriana Staniszevska

TYPSET AND EDIT
Michał Staniszevski

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Introduction

The book presented here belongs to the series documenting different topics discussed during the seminary that was held in The Institute of Cultural Studies (Adam Mickiewicz University, Poznań) in the period 2011–2013. The seminary itself was dedicated to the study of the theoretical consequences of the different methodologies and approaches engaged by historians in the particular field of the theory of cultural change. The seminary consisted of young scholars belonging to various intellectual traditions, working within different specialities and different, sometimes mutually exclusive, methodologies. Not the common point of view, but a shared interest in the problem of change and its possible theoretical solutions united the seminary.

Two texts presented here deal with separate but still deeply connected issues. Firstly, Magdalena Kamińska concentrates her study on the relationship between innovation and change, particularly researching the conditions under which the innovation may or may not provoke sociocultural change. Being a media specialist, Kamińska chose the history of media technology and its social consequences as her primary research material. Secondly, Olga Urban, being mainly interested in the threshold of broad, superindividual structures, like language or culture generally and the individual participation in these structures, follows her scholarly interest strictly. She has dedicated her study to the place of the individual within the social processes of change, involving the conceptual apparatus of the theory of participation in culture.

The link between two study areas may seem obscure at first glance, but it is deep and important. The studies follow, one can say, opposite trajectories: one going from individual creativity to the change of superindividual

structures, the second – from the regulatory functioning of such structures to the conditions and variety of individual participation. Although following slightly different but not contradictory methodological approaches, both studies emphasise different aspects of the very same process.

Krzysztof Moraczewski

Chapter I

Technological Innovation and Worldview Shift in the Perspective of Culture History

1. Culture, nature, technology, the supernatural

Education in the area of culture studies, broadly construed, traditionally begins with the operationalisation of Wilhelm Dilthey's culture-nature dyad and the attendant division into *Naturwissenschaften-Geisteswissenschaften*. The dyad, while still holding true for the social and humanistic sciences as the framework of their research fields, is currently being modified by media studies, which split it by means of a third notion, technology, which has previously been generally nonexistent in the field of interest of the humanities and social sciences.¹ Among these, aesthetics has so far the most to say about this and has repeatedly articulated and analysed the difference between *techne* and *ars* – and in consequence between the culture of technology and its application, and artistic culture.² Of prime interest in the optics of the socio-regulatory concept of culture was the

¹ See M. Lister, J. Dovey, S. Giddings, I. Grant, K. Kelly, *Nowe media. Wprowadzenie*, transl. Marta Lorek, Agata Sadza, Katarzyna Sawicka, Wyd. Uniwersytetu Jagiellońskiego, Cracow 2009.

² See e.g. Władysław Tatarkiewicz's classical *Dzieje sześciu pojęć*, PWN, Warsaw 1975, or David Roochnik, *Of Art and Wisdom: Plato's Understanding of Techne*, Pennsylvania State University Press, University Park 1996, which discusses in detail one of the stages of the process.

history of the emancipation of the culture of technology and its application in connection with the determinant cultural and social changes and its worldview context, determined by the evolution of the understanding of the role, obligations and status of science.³ The legacy of the followers of Constructivism, especially those researchers who focused on the social determinants of knowledge-generation processes, as well as the history of the ongoing dispute about the rational in science, part of the philosophy of science,⁴ demonstrate that the very fact of emancipation can be questioned, as can the location and operation of a constitutive borderline between the realms of *ars* and *techne*. Today, as a direct consequence of the widespread reconciliation with the global popularity of computer-mediated communication (CMC), the relations between culture, nature and technology are being revisited. Often, however, they are described in both universalistic and presentation terms.

Media studies (especially those dedicated to the so-called “new media”) describe the dynamism of the invariantly-construed culture-science-technology triad in terms of an invasion of “new” technology into the “old” culture and nature.⁵ They likewise try to diagnose the effects of this invasion, announcing and analysing the innovations supposed to emerge and spread within culture and nature under the impact of the “assault” of such technology. They lose sight of the fact, however, that technology and its practices are by no means “new” and, more importantly, the diversification between the three notions is not universal. In the history of Western culture they have been treated not only as antinomies but also as mutual components, extensions and models or have even been identified with one another. The history of the notion of things mechanical provides numerous examples to this effect. Of special importance here is the extension of the idea of the automaton and the debate about the anthropic

³ Under this approach, culture is composed of two zones: the technological and usable one (here directives determine in normative and directive pairs the efficient conditions for subjective and rational actions, irrespective of the common observance of these directives), and the symbolic one (here directives determine efficient conditions for subjective and rational actions only when the directives are observed). After: J. Kmita, T. Kostyrko, *Elementy teorii kultury*, Wyd. Naukowe UAM, Poznan 1983.

⁴ See e.g. K. Jodkowski, *Wspólnoty uczonych, paradygmaty, rewolucje naukowe*, vol. 22, series “Realizm. Racjonalność. Relatywizm,” Wyd. Uniwersytetu Marii Curie-Skłodowskiej, Lublin 1990; W. Sady, *Spór o racjonalność naukową. Od Poincarégo do Laudana*, Fundacja na Rzecz Nauki Polskiej, Wrocław 2000.

⁵ See M. Lister, J. Dovey, S. Giddings, I. Grant, K. Kelly, *Nowe media...*, pp. 465–611.

principle, revisited in the second half of the 20th century in the form of philosophical and other disputes on the question of the so-called AI (artificial intelligence). During the Scientific Revolution of the Middle Ages the idea of the automaton was expressed by two influential determinist concepts: of the mechanical universe, which identified the revolutions of the heavenly bodies with clockwork (this analogy was supported e.g. by Gottfried W. Leibniz, 1646–1716 and Christian Wolff, 1679–1754), and of the animal automaton, identifying the functions of animals' bodies with the operation of automatons and the act of creation with the work of a craftsman (influential adherents of this idea included René Descartes, 1596–1650 and Julien O. de La Mettrie, 1709–1751, the author of *Machine Man*, 1747, a flagship work of mechanism).⁶

Seeking examples of such identifications in the history of optical devices in particular, which will be used as a source of exemplifications in this text, we may notice the importance of the famous model of the human eye sketched by Leonardo da Vinci in 1508.⁷ The sketch represents a diagram of one of the oldest known optical devices – the camera obscura (an optical dark room) inscribed into the anatomical sketch of the human sight apparatus. Such an approach to the subject indicates that da Vinci did not treat the camera obscura as a metaphor, analogous to the model of the human eye or an imitation of the eye, but rather as an actual eye, no different from an organic eye, although made of a different material.⁸ However, this sketch can easily be interpreted as an analogon or metaphor if the contemporary interpreter knows nothing of the cultural context of Leonardo's model coming into being. Of special significance for this was the concept of natural magic, whose development helped to save the practices of the Renaissance representatives of “proto-science” and of magic from the impasse of heresy. The concept was a crucial element of a certain worldview which they represented. (I will come back to this question further on in the text.)

The above network of relations is additionally complicated if we add a fourth notion into this context, which has in the past quite often struck

⁶ See *Encyclopedia of the Scientific Revolution. From Copernicus to Newton*, ed. by W. Appelbaum, Taylor & Francis Group, New York – London 2000, p. 99.

⁷ The sketch is part of the so-called *Parisian Manuscript D* dedicated to the theories of vision, from the Bibliothèque de l'Institut de France in Paris.

⁸ See N. J. Wade, S. Finger, *The Eye as an Optical Instrument: from Camera Obscura to Helmholtz's Perspective*, “Perception” 30(10)/2001, pp. 1157–1177.

alliances with technology, nature and culture. The notion in question is that of the supernatural, something that cannot be caused or created by man or nature. I introduce this term here trying to avoid references to the self-imposing (in particular in the context of the preceding paragraph) notions of magic and religion. Their use triggers a host of problems with theory and definition, mainly caused by the fact that in the tradition of the social sciences their convergence and divergence have been widely discussed. Interestingly, technology and science are yet further notions whose relations to magic and religion have been analysed and accounted for at length by, firstly, philosophers – and then also by anthropologists.

The relation between magic and religion in the context of science and technology is one of the oldest and at the same time the most controversial topics addressed by the social sciences; with the controversies over them arising in the course of their development.⁹ For example, today's definition of magic reads as follows: "Magic is a kind of social awareness, a set of beliefs, convictions, practices and ways of conduct making up a system based on the belief that thanks to strictly defined actions and measures it is possible to harness supernatural forces or gain their favours, to take over control over the course of events, fate, destiny, nature as well as over the actions and emotions of others."¹⁰ Religion, in turn, is a "systematised set of beliefs, convictions and practices concerning the supra-natural reality and its impact on the world, human race and the human being and his or her social organisation."¹¹ As one can easily notice, these definitions share an analogous structure and, moreover, partly coincide (both magic and religion are systematised sets of beliefs, convictions and practices concerning the supernatural), but nevertheless they remain substantially non-complementary. The definition of religion is less precise than that of magic and besides does not contain the much-telling term "technology," whose use indicates that the authors of the definition attach special importance to the aspect of the manipulation of the magic practices. The conspicuous difficulty and a strong need to demarcate a borderline between the two notions stems from the political and ideological entanglements of the social sciences, in particular from the colonial past of anthropology.

As Michał Buchowski observes, the antonymy of the notions of magic and religion stems directly from the concept, today obsolete yet invariably

⁹ M. Buchowski, *W obronie racjonalności a przeciw schizofrenii umysłu*, "Kultura Współczesna" 1/1993, p. 67.

¹⁰ K. Olechnicki, P. Załęcki, *Słownik socjologiczny*, Graffiti BC, Torun 1997, p. 118.

¹¹ *Ibidem*, p. 117.

influential, put forth by James G. Frazer (1854–1941), which “in large measure perpetuates the beliefs of the medieval and Renaissance magi, according to whom one could have an impact on the natural world by taking action based on Hermetic knowledge. Furthermore, their belief corresponded to the positivist vision of science. This is precisely the source of Frazer’s location of magic ‘on the side of science rather than in opposition to science.’”¹² According to Buchowski, Frazer’s approach is instrumental behind the adoption by the social sciences until today of two erroneous approaches to magic: a theological one (“symbolist deriving from the Christian axiom that ‘magic is sin’”) and the post-Renaissance one (“intellectual,” born of Frazer’s opinion that magic is immature science). Of special significance under the latter approach is the attribution to magic of the function of subordinating the world, which makes possible its interpretation as a kind of proto-science. Practices and beliefs are therefore seen as heuristic conceptual tools and the imagery of the supernatural serves here as “units of theoretical explanation patterned after abstract scientific notions.”¹³ However, it was Bronisław Malinowski (1884–1942) who questioned the existence of both the genetic and functional isolation of magic and religion. According to Malinowski, the magical and religious systems share one feature: they are both instrumentally-oriented. The difference is that in traditional societies the drive to subordinate and explicate the world are inseparable from many other drives, while in secularised societies this drive is isolated. Therefore, the magical or religious ritual is dramatically different from the technological process, which has developed only in secularised communities.¹⁴ Magic differs from science only, or significantly, because of its reliance on emotions rather than experience, the use of associations instead of logic in the construction of theories and, finally, its affiliation to the sacred rather than secular tradition.¹⁵

The current state of anthropological knowledge inclines one to believe that the contradictions inherent in the works which are fundamental from the point of view of the social sciences concerning the scope of the “magical,” “religious” and “scientific and technological” ways of thinking

¹² M. Buchowski, *W obronie racjonalności...*, p. 68.

¹³ M. Buchowski, *Racjonalność, translacja, interpretacja. O badaniu myślenia magicznego w antropologii i filozofii brytyjskiej*, Wyd. Naukowe UAM, Poznań 1990, p. 57.

¹⁴ After: A. A. Szafrński, *Nowa antropologia wobec dawniejszych koncepcji religii i magii*, Nomos, Cracow 2000, p. 24.

¹⁵ After: M. Buchowski, *Magia, jej funkcja i struktura*, Wyd. Naukowe UAM, Poznań 1986, p. 37.

and acting are caused by their being treated – the way media studies does it with the notions of nature, culture and technology – in a way that strips them of their cultural and historical context. Add to this the multiple forms of religious life; in Western culture alone there were at least a few radically divergent forms of magic regulated by all kinds of awareness. Buchowski recommended the following categories of magic:

1) proto-primordial magic (forgotten and incapable of being reconstructed);

2) syncretic magic (implicit, classic, primordial). In this case it would be hard to talk separately about magical practice and awareness since their elements are “dispersed in a stream” of action and awareness concerning everyday life, while their rituals are “chaotic and dispersed.”¹⁶ Syncretic magic should be further subdivided into:

a) monolithic (primary). Today we no longer have communities where social practice would be exclusively one-sided. This type of magic may therefore be part of anthropological discourse only as a hypothetical state that indicates the moment of transition between the “state of nature” and culture;¹⁷

b) dualist, proto-professional. Here we can find the first symptom of creating a new type of social practice, i.e. the emergence of specialisation, also in the field of production actions (since a professional diviner has to be at least partly exempt from them). Here magic acquires a new cultural, self-regulatory function. This means that the magical worldview begins to valorise and sanction itself through the systematisation of mythology;¹⁸

3) degraded magic (subordinated and dethroned). It is professionalised, but no longer the only dominant worldview and no longer regulates the only existing kind of practice of inducing a worldview. We see the appearance of a clearly separate field of the sacred, which has created and maintains the natural order of things and interferes with it sometimes through miracles; its opposite, or anti-sacrum, tries to violate this order. According to Buchowski, we can distinguish here the following subtypes:

a) ancient magic;¹⁹

¹⁶ Ibidem, p. 70.

¹⁷ M. Buchowski, *Racjonalność, translacja, interpretacja...*, p. 81.

¹⁸ M. Buchowski, *Magia, jej funkcje...*, p. 74.

¹⁹ When in the 1920s Karl Preisendanz published a corpus of so-called *Papyri Graecae Magicae* (the content harks back to the period from the 2nd century BC until the 5th century AD), it turned out that, being the most significant source of knowledge about ancient magic practices, the papyri convey a clear religious message. First of all, this is

b) medieval and Renaissance magic with astrological practices at their centre. Astrology, exploring the supernatural senses of natural phenomena, was during the Renaissance the most important field of culture wars that according to Eugenio Garin brought about an evident crisis of the values of monotheist religious faith. At the close of the 15th century and in early 16th century. Pietro Pomponazzi put forth a belief, pregnant in consequences for discourse, that magic cannot use any supernatural powers or phenomena since this would infringe on the competences of the One God. Magic is, therefore, no sin but a completely permissible manipulation of nature.²⁰ The dispute about the norms and interpretations of magical practices held during the Renaissance, no doubt stimulated a long process of gradual sublimation of the technological realm,²¹ although it does not mean that it determined it or was identical to it. I will return to this question further on in this text;

c) forbidden magic;

4) magic of choice (contemporary, deliberate).²²

The above list would imply that by applying the term “magic,” today we unjustifiably generalise one of the practices enumerated by Buchowski. In truth such a general and thus erroneous notion should be eliminated from the realm of the social sciences, which however seems unrealistic also because this would undermine their entire tradition. The introduction into these reflections of the notion of the supernatural does not undermine this tradition and will help avoid an impasse, which would be inevitable

the magical practice of *systasis*, or creating a mystical and at the same time personal and intimate unity between the believer and deity. It was indicative not only of so-called magical thinking but also of the ancient religion of the individual, juxtaposed with the drab routine of obligatory public worship. The discovery of *systasis* questioned the earlier beliefs of the ancient approach to the supernatural and the existence of an inherent separateness of religion and magic. Furthermore, *Papyri Graecae Magicae* revealed that in Mediterranean antiquity not only polytheists but also Jews and Christians were involved in magical practices. This means that it was also these communities, which developed an institutionalised religion, inclusive of forms of monotheism expressly banning magical practices, and engaged in them, which would greatly complicate Buchowski's division. See H. D. Betz (ed.), *The Greek Magical Papyri in Translation, Including the Demotic Spells*, University of Chicago Press, Chicago 1996; A. Wypustek, *Magia antyczna*, Ossolineum, Wrocław 2001, pp. 13, 20, 23, 97.

²⁰ After: E. Garin, *Zodiak życia. Astrologia w okresie Renesansu*, transl. Wojciech Jekiel, Wyd. IFIS PAN, Warsaw 1997, p. 84.

²¹ M. Buchowski, *Magia, jej funkcja...*, p. 91.

²² M. Buchowski, *Magia i rytuał*, Instytutu Kultury, Warsaw 1993, p. 56.

in the event of the entanglement of the theoretical issues sketched above regarding the delineation of the limits of the notions of religion and magic. This will allow a better explanation of the ways of operation of the network of notions discussed in this part of the text within the framework of worldviews that are the foundations, context and background of the development of practices linked to the optical devices invented prior to the 20th century, which are what interest me in particular here.

Later I will explain in more detail why in these reflections on the history of the media I have extended the traditional triad of culture, nature and technology by a fourth element, which I have taken the liberty of calling the supernatural. Its presence has been particularly conspicuous in the history of optical devices, used in certain periods as projectors of the (super)natural. The changes illustrate shifts in the worldview which centuries later exerted an impact on today's audiovisual culture.

2. The development of the concept of natural magic

As was indicated before, Leonardo da Vinci's model of the human eye identifying it with a type of an early optical device, i.e. the camera obscura, articulates a conviction characteristic of a certain worldview, of the existence of a unique relation of the identity between nature and the supernatural. This conviction is defined in the language of Hermeticism as *Prisca Theologia* or natural magic. A lot has been written about them. Perhaps, as Paola Zambelli has it, too much has been written about the similarities and differences between their component convictions.²³ In this text I will for the sake of simplicity use mainly the term natural magic since it highlights the semantic anchorage of this conviction within the spectrum of notions discussed in the preceding section of this text. During the Renaissance a belief in the existence of this relation of identity not only stimulated work on the construction of ever new optical devices (camera obscura, magic lantern, so-called Pepper's ghost), but also determined the kind of practices they were used for. Attempts at dividing them into magical, scientific, technological, bogus, and entertainment practices – while frequent in the history of culture – are artificial, and made from a time perspective. In order to clarify why I believe in the key importance of

²³ P. Zambelli, *White Magic, Black Magic in the European Renaissance*, Brill, Leiden – Boston 2007, pp. 4–5.

the Renaissance practices with optical devices as one-sided, I will briefly discuss the development of the concept of natural magic.

Richard Kieckhefer indicates that the difference between the concepts of natural magic and other kinds of magic began to surface as early as the writings of Wilhelm of Auvergne (1181?–1249), Albert the Great (1193?–1280) and Thomas Aquinas (1225?–1274) – who believed in the existence of “mysterious phenomena” taking place without demonic powers, and besides used the term *virtutes occultae* in reference to yet unrecognised natural powers – and Roger Bacon (1214?–1292), who used the term “magic” in reference to practices which he deemed as humbug.²⁴ In the following centuries more and more phenomena that could be interpreted as supernatural were naturalised and animistic. To be more precise: the symbolic features of elements of the natural could be, and often were, treated as evidence of their supernatural power. Kieckhefer implies that in disputable cases medieval elites would more often apply naturalist than semiotic explanations, which might indicate the then division into high and low magic, a reflection of the social divisions of the time. We should, therefore, assume that the late medieval and Renaissance theory and practice of Christian magic in Europe perpetuated, not always completely clearly, antinomous divisions into natural and demonic magic, as well as into high and low ones. These divisions gave rise to the notions of magic and religion as they are used in contemporary societies. The direct sources of the latter can be sought only in the religious disputes of the 16th century. Their questions were taken over by the 19th-century founding fathers of the social sciences, who introduced categories of practices related to the supernatural on account of their expected efficacy of application rather than because of the type of the powers summoned. They permanently linked volitional entreaties with religion and mechanistic manipulations with magic.²⁵

We should bear in mind that medieval intellectuals owed their knowledge of magic to texts by pagan authors. In these sources Galen ridiculed faith in the miraculous power of stones, but ordered that herbs should be picked with the left hand; Seneca used the term “superstition,” but professed faith in divining; Aristotle simultaneously put forth the theory of *quinta essentia* and recognised the impact of stars on the course of human life; Sextus Empiricus tried to differentiate the impact of destiny

²⁴ R. Kieckhefer, *Magia w średniowieczu*, transl. Ireneusz Kania, Universitas, Cracow 2001, s. 32.

²⁵ *Ibidem*, pp. 34–35.

on will and chance; Plotinus naturalised magic and prayer as “the strumming of the strings” that help achieve desirable natural effects; while the other Neo-Platonians wrote about theurgy as a practice oppositional to goetia. The influence of poetry cannot be overestimated. For instance, the presence of magic in *The Odyssey* called for a Christian reinterpretation which included reflection on whether a Christian should understand the transformation of Odysseus’ companions into hogs as a metaphor, illusion or fact.²⁶ It is, then, in order at this point too to recall that early Christians themselves were considered as sorcerers, since they ascribed to the crucified one the highest supernatural powers, which for the ancients came disconcertingly close to the scary practices of necromancers; it was common knowledge that these practices were the most efficacious when the bodies of executed convicts were used.²⁷

Pagans fully approved of supernatural practices which we could dub magical today as long as they were performed openly; they believed in their positive social impact and saw as negative only those that were carried out in hiding. They thus created a division into white and black magic, often updated in successive centuries and operating in Western culture until today, as witnessed by contemporary wiccan “theology.”²⁸ During the reign of pagan emperors only deadly magic, or simple poisoning, was seen as a crime; whilst as of the reign of Constantine all practices defined as magical were officially penalised with the somewhat surprising exception of the traditional Roman mantic rituals.²⁹ Because of the above inconsistencies, which furnish proof of the ongoing negotiations between two incompatible world-view systems, the Christians of the first few centuries had a substantial practical and theological problem with the practices of popular folk magic. Christians would not try and treat themselves via open idolatry, but weren’t in general aware that folk medicinal magic, from a theological point of view, also had a demoniacal nature and therefore practiced it/didn’t practice it *en masse*.³⁰

²⁶ Ibidem, pp. 39–49.

²⁷ See D. Ogden, *Greek and Roman Necromancy*, Princeton University Press, Princeton – Oxford 2001.

²⁸ See R. Furman, *Wicca i wiccanie. Od tradycji do wirtualnej wspólnoty*, Nomos, Cra-cow 2006.

²⁹ See R. MacMullen, *Christianizing The Roman Empire A.D. 100–400*, Yale University Press, New Haven 1984.

³⁰ See A. Wypustek, *Magia antyczna*.

To sum up, early Christians interpreted all supernatural practices apart from their own as idolatrous, sinful and diabolical. Still, on a daily basis some practices of “christened” (i.e. referring to Christian mythology and symbolism) magic were tolerated and thus the earlier division into beneficial and destructive magic perpetrated, even if the division was underpinned by a different world view. This division had a lot to do with the ancient antinomy of theurgy and goetia, and later on influenced the emergence of the terms of natural and demonic magic.³¹ Such distinctions were nonexistent in the pre-Christian cultures of barbarian Europe. For a number of centuries, Christian clergymen equipped with penitentials worked zealously to instil in the faithful the expected attitude towards the supernatural by destroying the unified aspect of supernatural pagan practices. Therefore, by the time of the complete Christianisation of Europe they penalised faith in the power of magic (applying to it the notion of *superstitio*) rather than active participation in magical practices whose efficacy they themselves doubted – as conversant with the classics, who were sceptical about superstitions.³² This surprising, liberal approach was reflected in the texts of the time. For instance, this approach does not demonise but rather negates the actuality of “the illusions of the women” who believe that they accompany the pagan goddess Diana in her trips across the sky at night, which image established the pattern of Sabbath flights and came to occupy such an important position in the anti-witch myths of a later date.³³

For want of clarity and oftentimes because of evident discrepancies between diverse medieval interpretations, beliefs and images of the supernatural, the magus at that time was, as indicated by Richard Kieckhefer, a kind of person rather than a profession. It is hard to ascribe to him a specific worldview. Magic (as medicine, which was a significant field of its impact) was practiced at that time by representatives of all social strata: monks, parish priests,³⁴ physicians, surgeon-barbers, midwives,

³¹ J. Durrant, M. D. Bailey, *Introduction*, in eadem, *Historical Dictionary of Witchcraft*, Scarecrow, Lanham 2003, pp. XXIX–XXXI.

³² R. Kieckhefer, *Magia w średniowieczu...*, s. 77.

³³ See R. Bugaj, *Nauki tajemne w dawnej Polsce – Mistrz Twardowski*, Ossolineum, Wrocław 1986, p. 45.

³⁴ Their practices are documented the most extensively, which justifies a claim that demonic magic was practiced first of all by the clergy, who officially combated it. See R. Kieckhefer, *Magic in the Middle Ages*, Cambridge University Press, Cambridge 2000, p. 56.

folk healers, and diviners and people of any other profession and walk of life, with no formal training, practicing it in everyday life without the aid of sophisticated theoretical systems. This situation started to change only in the 12th century, when a more precise definition of forbidden magic came to be used, which resulted in a reduction of practices underrated as inefficient, fraudulent or superstitious. Kieckhefer indicates that this fact was linked to the emergence of the cathedral school out of a university. This institution began to systematically educate eminent erudite theoreticians who knew how to engage in scholarly debates and negotiate worldviews. They could focus, for instance, on the question of predestination, seeking a solution to the following dilemma: if God rules the stars and the arrangement of the constellations makes man at the moment of birth a murderer and thief, does it mean that God marks man in this way?³⁵ At that time there was no doubt that demonic magic must be criminal. Disputes were held rather about which supernatural practices should be qualified as such. For instance, prayers that looked innocuous on the face of them but contained any incomprehensible words or signs, were suspect since the words and signs in question may have been the names of demons. The focus in the late Middle Ages was, then, on the creation of categories of supernatural practices, the identification of forbidden practices and on providing theoretical explanations of how demonic magic may be efficient in a world governed by the omnipotent God.³⁶ In short, the thing was to ascribe a certain power to supernatural beings other than God; this power could not be excessive as this would undermine the supremacy of the Only One. As a result, *The Hammer of Witches* (1487) was able to authoritatively observe that demons are incapable of miracles, but can in fact freely manipulate natural phenomena. Thanks to them, magi “can show to others occult things and some future events, by the information of devils, though this may sometimes have a natural cause. Things that are not as well as those that are can be shown.”³⁷ The concept of natural magic was being born under precisely such circumstances.

This notion is seen as of key importance for the Renaissance period. Naturalisation became the principal strategy of the defence of all kinds of non-orthodox concepts of the supernatural and many practices were

³⁵ Ibidem, p. 172.

³⁶ Ibidem, p. 259.

³⁷ After: J. Sprenger, H. Kraemer, *The Hammer of Witches*, transl. Christopher S. Mackay, Cambridge University Press, Cambridge 2009, p. 94.

penalised as demonic magic. These last included also the manufacture and application of optical devices. Optics was at risk of demonic influences and their consequences primarily because it was mainly used in both the Middle Ages and in the Renaissance for the production of illusion, and the devices themselves were not transparent. This was due to the then strongly elitist style of knowledge distribution and also because with the then state of knowledge distribution, the operation of the devices was incomprehensible to the operators themselves. The interest in optics was to link the Renaissance magi with later-day representatives of the so-called Scientific Revolution.³⁸ The latter, however, used optical devices primarily for cognitive purposes, devoting themselves primarily to work on microscopes and telescopes. The work brought about a significant change of the worldview since it meant to prove that the world of human life is far more extensive than its fragment directly accessible to the human senses. The contrast between the two types of practices with the use of optical devices exemplifies the fact that the effect of a projection depends to a large extent on the awareness of the presence of the device in the audience and of the principles of its operation in the operator. It is the overt presence of the device that determines the most crucial difference between a representative of the Scientific Revolution interested in optics and a Renaissance magus, who was equally interested in it. The latter was first of all a prestidigitator who hid the workings of his projections from his public and sometimes also a craftsman who used optical devices as the simple tools of astrologists or painters. Because of the worldview adopted (faith in the unique relation of the identity between nature and the supernatural), and also on account of the dominance of a specific system of the distribution of knowledge and its then state (an exclusive, occult model of magic philosophy), optical devices could be used by the magus not as an alternative but simultaneously as projectors of natural and supernatural phenomena. This determined, in turn, the kind of practices they were used for. In the case of representatives of the Scientific Revolution, this question was far more complicated. I will return to this issue at the end of this subchapter.

The Renaissance concept of magic developed in the 15th century. From the very start it was contingent on the division – of earlier eras, well established in the Western tradition – into white/natural/theurgic and black/

³⁸ Its arbitrary borderlines stretch from the second half of the 16th century until the early 18th century. See: *Encyclopedia of the Scientific Revolution...*, p. III.

demonic/goetian magic. The texts and practices of the Renaissance magi reflected, however, first of all the powerful “crisis in culture, initially limited to small avant-garde groups, which rocked not only the entire order of knowledge, starting with language, but also the entire civilised society, with serious ramifications for religion.”³⁹ Attempts to subdue the crisis were made, such as the “questioning of its existence, by incorporating it into the realm of institutions it questions and culture areas it rejected.”⁴⁰ The principal problem was that the type of magic practiced then – among others by strong ties with astrology⁴¹ – was a threat to the belief in the divine omnipotence. However, the practices were so popular that they could not be eradicated, which was equivalent to a more generalised change of the worldview.

In principle, natural magic during the Renaissance – although this was not always the purpose of the magi – opposed institutional religion. However, we should not forget the ties of this magic with the concept of the Hermetic *Prisca Theologia*, which assumed that there is only one true theology, whose elements are shared by all religions, and which was offered to the human beings by God in ancient pagan times (and already then it must have included prophetically Christian elements).⁴² The concept was pioneered by Marsilio Ficino (1433–1499) and Giovanni Pico della Mirandola (1463–1494), who came up with plans of reforming Christianity by creating a pan-denomination. This was to appease the religious conflicts in the West and usher in a kind of “hermetic Reformation.”⁴³ As E. Garin observes, the secret of the success of Ficino’s idea, which was later written off by the entire 16th century, was to lie “lies in the demonstration of less travelled roads, such as the world of the imaginary, the charm of mystery and magic in a telling combination of poetry and philosophy.”⁴⁴ It was mainly thanks to the impact of Ficino’s writings that the Hermetic version of humanism became the motto of the period. Ficino was the

³⁹ E. Garin, *Filozof i mag*, in idem (ed.), *Człowiek renesansu*, transl. Anna Osmólska-Mętrak, Volumen, Warsaw 2001, p. 188.

⁴⁰ Ibidem.

⁴¹ Frances Yates, one of the best known if controversial scholars of Renaissance Hermetic tradition, uses here a cover term “astral magic.”

⁴² *Encyclopedia of the Scientific Revolution...*, p. 817.

⁴³ J.D. Heiser, *Prisci Theologi and the Hermetic Reformation in the Fifteenth Century*, Repristination Press, Bynum 2011.

⁴⁴ E. Garin, *Filozof...*, s. 195.

first to bolster the status of the human being as “god Anthropos,” later identified by Mirandola with the “grand miracle” allegedly announced in Antiquity by Hermes Trismegistos. We often lose sight of the fact that this bold, pioneer and emphatic statement of the conviction that human dignity is the highest value actually originated precisely in the affirmation of the unbridled powers of the magus, whose knowledge of the (super) natural allows him to control his own destiny, first of all via practicing astrology and astral magic.⁴⁵ This worldview statement taken out of its historical and cultural context seems understandable enough today so that it appears in school textbooks as an emblem of Renaissance humanism; however, because of the elimination of the supernatural elements, it is seen at present in a totally different sense.

Ficino is directly responsible for the “Unitarian root” of the *Prisca Theologia* religion, or for the idea that the promotion of Hermeticism may eradicate religious conflict.⁴⁶ Other authors followed suit. In his 1591 treatise *Nova de universis philosophia* dedicated to Pope Gregory XIV “and to all his successors,” Francesco Patrici called directly for the elimination from philosophy of the pagan Aristotle and his replacement by – the allegedly proto-Christian – Plato, Plotinus, Zoroaster, and Hermes Trismegistos.⁴⁷ Pico stressed that, despite appearances to the contrary, similar concepts are not exclusive: theology is but a “higher” magic and magic is the “lower” theology and a form of philosophy, while the spirits that magi conjure fall into two divergent groups: demonic spirits (dangerous), better to be avoided, and natural (neutral) ones, that can be contacted. While Christianity was supposed to be the ultimate achievement and the overriding sense of *Prisca Theologia*, attempts at reconciling it with so many diverse non-orthodox ideas profoundly changed all of its elements. This syncretic collage of beliefs laid the foundations of the worldview of the Renaissance magi, adherents of Hermetic philosophy.⁴⁸ Here the relation between the supernatural and nature took on an erotic twist in the Platonic sense: the magus was first of all to adore nature and “merge with its in a passionate embrace,” which was to exemplify the divine love

⁴⁵ F. A. Yates, *Giordano Bruno and the Hermetic Tradition*, Routledge and Kegan, London 1964, p. 116.

⁴⁶ E. Garin, *Filozof...*, s. 196.

⁴⁷ See R. Bugaj, *Nauki tajemne w dawnej Polsce...*, p. 76.

⁴⁸ *Ibidem*, p. 52.

to all creation.⁴⁹ The above assumptions allowed Pico to state that magic is “a perfect knowledge of nature,” while Cornelius Agrippa (1486–1535) could write about “occult philosophy” (*philosophia occulta*), and Giambattista Della Porta (1535?–1615) could state in his monumental *Magiae Naturalis* (1584) of the principles of priestly and philosophic magic, at the same time discussing exorcisms and observing in an empiricist manner: “I believe my eyes more than Aristotle’s books [...]. We know something when we know its causes and principles.”⁵⁰ As Frances Yates commented on the worldview shift, the moment the Neo-Platonic philosophers managed to christen Hermes, making him resemble Christ’s prophet, who foresaw the collapse of paganism, a unique kind of magic religion was born.⁵¹ This was contingent on the articulation of the relation of the identity between nature and the supernatural and its principal worldview, the foundation of a historically unique worldview system.

“In 1489 Ficino claimed authoritatively that the philosopher is a magus since he deals with the natural sciences and acts on the level of the natural, supporting Pico’s theory, condemned by that time, about »natural magic« as the practical part of the science of nature.”⁵² Pico fought against the astrology of diviners and necromantic magic, but was very much in favour of other kinds of magic, mathematical and natural, where the magus “bridged the world,” using the natural links between its phenomena to create new things. He was to a lesser degree than Ficino – who extolled the mystical betrothal of earth and heaven – lenient to the logical discrepancies inherent in this image of the world, which made him try and delineate a precise borderline between the natural and the supernatural.⁵³ Since he had what was then respected and later ridiculed (e.g. by Umberto Eco), i.e. a talent of compiling elegant, coherent and symmetric systems, he went further than Ficino in his concepts. This applied primarily to the bold approval of the particularly theologically suspect kind of *magia naturalis*: cabalistic magic, which was supposed to be in line, and go hand in hand, with the “natural” *spiritus mundi*. He, thus, reformed magic substantially, as the Kabbalah cannot be practiced in isolation from its religious context, which was possible in the case of folk magic practices. The Kabbalah is

⁴⁹ F. A. Yates, *Giordano Bruno...*, p. 126.

⁵⁰ *Ibidem*, p. 54.

⁵¹ *Ibidem*, p. 83.

⁵² E. Garin, *Filozof...*, s. 197.

⁵³ *Ibidem*, p. 198.

a practice that requires not only a substantial knowledge, but also a specific worldview.⁵⁴ In turn, the *magia moderna* of Pico's time, which did not require this knowledge, was seen by him as demonic, and supernatural in a pejorative sense of the term, i.e. incompatible with nature, and as such rightly forbidden.⁵⁵ The fact of the existence of such divisions is in stark contrast to the contemporary thinking of the magical worldview, once again arguing that the Renaissance theory and practice of natural magic, so powerful in its impact on the history of optical devices, should be treated as dependent on the historical context rather than invariant and universal.

Jacques Le Goff observed that medieval philosophers should be seen as intellectuals, since only during the Renaissance was the notion of a philosopher ultimately clarified and reformulated. The philosopher was spared the role of a school teacher and thus became independent of orthodoxy and of the direct impact of authority, which made him a "critical and often rebellious" "restless searcher,"⁵⁶ a physical and intellectual wanderer in pursuit of "covert truths."⁵⁷ He no longer was solely a commentator, mainly of Aristotle, and he decisively opposed medieval ways of knowledge distribution, being neither anti-Aristotelian nor anti-Averroist.⁵⁸ He despised school as a place "where boys are taught," preferring contacts with an elite group of philosophers who grappled with fundamental questions. If he taught at all, he was not connected with academia, but often contributed to the emergence of an academia, or an independent society of scholars dedicated to an exchange of ideas rather than to teaching. Not being too much of a lecturer, he preferred to express his ideas in letters, written in the 15th century increasingly in the vernacular languages. In general he attached great importance to the clarity, succinctness and literary quality of his texts. This stemmed from the fact that unlimited access to knowledge should be had by people in power and business as well as women, who need not bother to learn Latin or Greek. However, he should not be seen as believing that education should be obligatory for all; on the contrary, he was certain that only very few could become the initiated.⁵⁹

⁵⁴ F. A. Yates, *Giordano Bruno...*, p. 84.

⁵⁵ *Ibidem*, p. 87.

⁵⁶ E. Garin, *Filozof...*, s. 179.

⁵⁷ *Ibidem*, p. 181.

⁵⁸ *Ibidem*, p. 185.

⁵⁹ *Ibidem*, p. 199.

Historians rightly point to the links between such ideas espoused by the Renaissance magi-philosophers due to the (ongoing) cultural and social shift.⁶⁰ They do not always wish to note the importance of beliefs concerning the (super)natural, which are the foundation of their worldview, let alone to define them in detail. This is so because the worldview that emerges from those beliefs seems today at best hard to understand, and at worst ludicrous, ridiculing its followers, who are seen as pioneers of the scientific way of thinking and thus as the spiritual fathers of contemporary times. In this situation it is more convenient to ignore the fact that because of the above contexts of the notion of natural magic there were situations where “high” magi such as e.g. Johannes Trithemius (1462–1516), whose texts were studied by Agrippa and Paracelsus, fully supported witchcraft trials; this reached its apogee between the 15th and the 17th centuries.⁶¹ The 16th century in particular came down in history as a period of witchcraft trials and the flourishing of the magical and divining practices of a goetian and deliberately demonic nature, which sometimes actually savoured of Satanism. Necromancy may be a case in point; this practice is recorded in a diary of Benvenuto Cellini (1500–1571), who described a séance in the Colosseum which he personally attended. As he observes, he treated seriously the prophesy that was revealed to him but he did not feel that he had participated in a transgressive or dangerous ritual that is forbidden for Christians. Today, it is completely impossible to reconstruct the pattern of the optical illusion he was subjected to, but according to his own account he did not fear the devils appearing before him since he believed them to be beings not actually present but merely their reproductions, mirror reflections of demonic beings, which at the time of the séance stayed in hell (most probably that is why he did not consider conjuring them a sin).⁶² This ambivalent attitude proves that at that time worldview negotiations took place about the supernatural, not only about the demarcation line between theurgy and goetia but also about the relativity and danger of practices of openly demonic magic. This, moreover, illustrates why optical practices may have been an especially significant field where these negotiations took place.

⁶⁰ Ibidem, p. 200.

⁶¹ See B. Ankarloo, S. Clark, W. Monter (eds.), *Witchcraft and Magic in Europe*, vol. 4: *The Period of the Witch Trials*, Bloomsbury, London 2002.

⁶² B. Cellini, *Benvenuto Celliniego żywot własny spisany przez niego samego*, transl. Leopold Staff, PIW, Warsaw 1984.

Furthermore, at that time the first advocates of witches such as Johannes Wier (1515?–1588) spoke up. They began to return to the medieval strategy of downplaying folk magic and goetian practices not as demonical but as inefficient. Ridicule and disregard of first folk and then learned sorcery were initially an alternative and then the dominant form of their criticism. However, after this strategy was installed on the background of the concept of natural magic, it led to ambiguous conclusions and resulted in an ennoblement of “low” magic. A case in point is the approach of Paracelsus, who on the one hand stressed that the persecuted witches disseminated the most efficient of the then available medical traditions, and on the other hand believed that its efficacy derives solely from its elements of universal natural magic. A return to the notion of a superstition could also have been underpinned by the assumption that all human “miracles,” irrespective of whether carried out with or without the aid of demons, can only be illusory. An example here is a concept of a Jesuit theologian Martin Del Rio (1551–1608), who juxtaposed two kinds of magic seen as an art of working miracles: the supra-natural, linked with an act of God, and supernatural, related to human activity, but also angelic and devilish, capable of performing short-lived miracles by means of manipulating nature or deceiving the senses. Based on a similar assumption, Wier in *De praestigiis daemonum* (1563) significantly reinterpreted the fact that so many witches sealed their own fate by swearing during the trial that they had consciously entered into a pact with the devil. He deemed them as insane or suffering from self-delusion, the first victims of the illusion they themselves concocted. In both cases he demanded that they be exempt from persecution.⁶³

In the 16th century the impact of goetia was more and more conspicuous in the concepts and practices of representatives of natural magic. A case in point is the activity of Cornelius Agrippa (1486–1535), “a restless adventurer who traversed Europe” meeting with numerous contemporary philosophers, setting up all kinds of more or less clandestine brotherhoods and assimilating Pico’s magic, Ficino’s Hermeticism and the Christian Kabbalah of Johann Reuchlin (1455–1522). By today’s standards, Agrippa could no doubt be called a sorcerer, just as he was so called by his contemporaries. His writings openly contested the institutions of power and

⁶³ After: S. Dupré, *Images in the Air: Optical Games, Magic and Imagination*, in Ch. Götter, W. Neuber (eds.), *Spirits Unseen. The Representation of Subtle Bodies in Early Modern European Culture*, Brill, Leiden – Boston 2008, pp. 85–86.

insulted theologians, who persecuted and isolated him.⁶⁴ Like Paracelsus, he provided a typology of all kinds of magic, differentiating between elementary magic (composed of the natural sciences and medicine), celestial (comprising philosophy and mathematics) and the ceremonial one. His great compendium *De occulta philosophia libri tres* (1533), later used as a *grimoire*, provided a definition of natural magic. According to him this was a science thanks to which a magus can manipulate the heavenly bodies to effect physical changes in the world: “Natural Magicke then is that, whiche having intently behelde the forces of all natural thinges, and celestiall, and with curious search sought out their order, doth in such sorte pushing abroade the hidden and secret powers of nature: coupling the inferiour things with the qualities of the superiour as it were certaine enticements by a naturall joyning of them together, that therof oftentimes doe arise marvelous miracles: not so much by Arte as nature whereunto this Arte dothe proffer herselfe a servaunte, when shee worketh these things.”⁶⁵ In the same book he wrote side by side about the manufacture of poisons, filters and perfumes linked to individual planets and about the nature of light. Light originated in the Holy Trinity, then in angels, the heavenly bodies, fire, and finally in an individual with an enlightened mind, who possessed knowledge of things divine. All earthly phenomena were to reflect the overriding system of the universe, ordered according to the principles of the magic of numbers and planets. To Agrippa, the magic of numbers was far superior to natural magic which, apart from affinities with Pythagoras, would indicate a pre-Cartesian conviction about the precedence of the abstract over the empirical.⁶⁶ Moreover, Agrippa was, quite surprisingly, perhaps, one of the first relativists, merging the occult with scepticism in a way which could be incomprehensible today.⁶⁷ I will return to this question at the end of this subchapter.

Paracelsus (1493?–1541) was a similar, if somewhat more restless person. Today he is most often remembered as a rebellious innovator-physician who contested all theoretical schools, ostensibly using in his writing a German dialect instead of Latin and condemning the entire tradition of Galen, Avicenna and Aristotle. In a truly apologetic zest he prophesied

⁶⁴ E. Garin, *Filozof...*, s. 205.

⁶⁵ After: S. F. Williams, ‘Singe the Enchantment for Sleepe’: *Music and Bewitched Sleep in Early Modern English Drama*, in Ch. Götter, W. Neuber (eds.), *Spirits Unseen...*, p. 182.

⁶⁶ F. A. Yates, *Giordano Bruno...*, pp. 131–133.

⁶⁷ *Encyclopedia of the Scientific Revolution...*, p. 34.

that Galen and Avicenna would be “covered by stones” and that “Heaven shall give birth to new physicians, who will learn four elements as well as the art of magic and cabbala, which are the cataracts of your eyes. These will be the *geomantici*, *adepti*, *archei*, *spagiri*, who will possess the *quantum esse*, who will possess the *arcana*, who will possess the *mysterie*, and who will possess the *tinctura*. Where will your vomit-inducing mixes end up after this revolution?”⁶⁸ He believed that philosophy is “invisible nature” which, apart from astronomy and alchemy, which also boil down to the notion of nature, should be the basis of medicine. Paracelsus was, then, a *par excellence* natural philosopher and at the same time a mystic in theory and materialist in practice, who deemed all forms of creation as an alchemical process.⁶⁹ Many more similar examples could be provided here. Perhaps the most troublesome case is John Dee (1527–1608?), who must not be left out in the history of the Scientific Revolution but who also, as a true sorcerer, cannot be unquestioningly attributed to it.⁷⁰ Inspired by Trithemius, Dee came to regard alchemy as an offshoot of natural magic – *astronomia inferior* (external, or earthly astronomy).⁷¹ According to Dee, the Kabbalah was the discipline that ordered the entire visible and invisible world. It was a hieroglyphic, a “new and holy art of writing and language” inspired also by Pythagoras, originating in the first principle of reality (monad) and being a literal record of the divine act of creation, an aid for the “writing of things.” The knowledge of the Kabbalah was to reform the entire body of knowledge possessed by humans.⁷²

Dee repeatedly described the illusionary effects of “images appearing in the air,” conjured up by means of “miraculous mirrors.” We have no way of knowing if in this case he meant an optical (catoptric) projection or a purely magical *séance* since his description is too scanty and focuses on the effects without any mention of the workings and the details of the devices used.⁷³ This example demonstrates that the most crucial difference between accounts of the state of the art knowledge from different histor-

⁶⁸ *Ibidem*, pp. 207–208.

⁶⁹ *Ibidem*, p. 34.

⁷⁰ *Ibidem*, p. 284.

⁷¹ N. H. Clulee, *Astronomia Inferior. Legacies of Johannes Trithemius and John Dee*, in W. R. Newman, A. Grafton (ed.), *Secrets of Nature. Astrology and Alchemy in Early Modern Europe*, The MIT Press, Cambridge, Mass. – London 2001, p. 173.

⁷² *Ibidem*, pp. 176–179.

⁷³ *Ibidem*, pp. 71–72.

ical periods lies precisely in the form of description adopted in a given era. Before the 17th century recording knowledge consisted mainly in the “re-writing of tradition,” classifying the existent material and creating its comprehensive compilations. In this form knowledge was distributed, which perpetuated certain thinking patterns and contributed to a far higher opinion of erudition as opposed to innovativeness, a potential threat to the integrity of the worldview *status quo*.⁷⁴ The intensifying “fact worship” radically changed this state of affairs as it contributed to a gradual emergence of the expert figure and of ways of compiling collective knowledge known today. The recognition of a specific relation between experiment and knowledge expressed in a highly precise account is key for the concept of science in the 16th and 17th centuries and played the fundamental role in the transformations of natural philosophy into the Scientific Revolution.⁷⁵

3. Scientific Revolution

The role of magic for the initiation of the Scientific Revolution has been repeatedly downplayed and instead the role of natural philosophy has been stressed, interpreted in hindsight as proto-science. However, the Renaissance concepts of philosophy and theurgy accounted for phenomena in terms of causes without testing explanations since they concerned things and phenomena accessible to the senses and commonly known. In turn, the goetian and folk branches of magic, on the contrary, were disinterested in causality as a matter of course. Possible explanations of phenomena were for them an optional addition unworthy of attention. Unlike an intellectual philosopher, a professional sorcerer was only after practical accomplishments (sometimes real, other times virtual, illusionist and simulation-like).⁷⁶ Therefore, the role of “lower” magical practices proved decisive for the discovery of the experimental method and so-called mechanical philosophies seen as characteristic of the Scientific Revolution. Magic assumed facts “bottom-up,” not through theory, which would inevitably result in the rejection of facts incompatible with theory.

⁷⁴ B. W. Ogilvie, *The Science of Describing. Natural History in Renaissance Europe*, The University of Chicago Press, Chicago – London 2006, pp. 2–3.

⁷⁵ *Ibidem*, pp. 6–15.

⁷⁶ *Encyclopedia of the Scientific Revolution*..., p. 591.

Moreover, it was not surprised by anything but instead pragmatically took advantage of all in a bricolage fashion.⁷⁷ Thus, it cleared the field of studies for a “new epistemology” of the Scientific Revolution.⁷⁸ The practices of opticians were again of crucial significance in this respect.

In fact, all Renaissance philosophers demonstrate some kind of fascination with the practice of projecting “images in the air.” This interest was linked with Euclid (*Optica* and Pseudo-Euclid’s *Catoptrica*), Alhazen and Witelo (*Perspectiva*).⁷⁹ In the late 16th century the “images in the air” and optical devices that projected them became the major field of negotiations of the borderlines between natural and demonic magic. In principle they were grouped together with the unnatural, virtual, unreal and thus negative. The predominantly scary content of the projections aroused further suspicions that they may result from diabolical interventions, although some authors included optics into natural magic. Such authors included e.g. Giambattista Della Porta and Jean Pena (1528–1558), who included optics into the zone of “natural miracles,” which only charlatans deemed as supernatural.⁸⁰ Other uses of optics were less popular then and boiled down, as observed by Petrus Ramus (1515–1572), to the art of improving eyesight (*ars bene videndi*). Pena, a disciple of Ramus, substantially extended the meaning of optics into the skill of a “careful and cautious assessment of whether the visible things are true or false” and a knowledge of methods of deceiving the eye during optical games and thus a skill of an efficient defence against them. To this end he described optical effects in *De usu optices* (1557) and observed that they are but illusionists’ tricks to scare the public with projections of spirits and devils (e.g. the art of projecting “images in the air” by means of a mirror located in a camera obscura).⁸¹ The medieval projections accounted for by Witelo (1230?–1280?) were meant to be watched in magic mirrors (most often convex and cylindrical), while 16th-century projections were based on projecting images in the air, which enhanced the reality effect and at the same time intensified their uncanny aspect and were a step towards a mass spectacle.⁸² Other uses of optical devices were sought yet they remained a speculation, oftentimes

⁷⁷ Ibidem, p. 592.

⁷⁸ Ibidem, p. 598.

⁷⁹ Ibidem, pp. 71–72.

⁸⁰ After: S. Dupré, *Images in the Air...*, p. 84.

⁸¹ Ibidem, pp. 71–72.

⁸² Ibidem, pp. 74–75.

totally imaginary. For instance, in the *Bellicorum instrumentorum liber* Giovanni Fontana (1395?–1455?) described a hypothetical strategy of psychological warfare with the use of projections from a magic lantern, which at that time was unfeasible from a technical point of view.⁸³ In the 16th and 17th centuries, optical games became popular entertainment at courts and the *Kunstkammera*, where optical instruments were gathered, and thanks to them the *Spielkammera*, or playrooms for adults⁸⁴ came into existence. Partly due to the intense and long-lasting popularity of Della Porta's *Magiae Naturalis* these were not only games for aristocracy. City dwellers also had their “mirror cabinets” not only for projections but also for deformations, anamorphous.⁸⁵ By the 17th century this had become bona fide collective entertainment, with no division into the element of *ludus* (social entertainment) and *lusus* (the intellectual one). Especially in Jesuit writings *ludere* was inextricably linked semantically with *illudere*.⁸⁶

One of the most influential Jesuit intellectuals of the time was Athanasius Kircher (1601?–1680), called the “last Renaissance man,” no doubt the last to believe in the collection of all universal knowledge into one compendium. An author of *Ars Magna Lucis et Umbrae* (1646), which was fundamental for the development of optics, he was one of the most prolific *encyclopédistes* of his time. He wrote numerous letters and ran a museum of curios in the Collegio Romano, which converted this venue into one of the most important intellectual centres of Rome, and contributed to his being the most renowned polymath of his era. Throughout his life he searched for “ancient truths,” believed that the hieroglyphs were one of the major conveyors of them and treated them as symbols of universal pan-knowledge (*pansophia*). An eclectic who joined excerpts with observations and an avid experimenter making use of the newest inventions which

⁸³ Similar ideas were often taken up later, as late as the 20th century, even if in reference to film screenings. During the First World War Paul Leni, who was to become an eminent German film director, was stationed as a soldier in a Polish family, where he was intrigued by the religious practices of Catholicism, somewhat exotic for a Prussian Jew. He then hit on an idea to project a figure of St. Mary in the sky in order to finish the war by means of this fake miracle. This idea was seriously considered by the German ministry for the propaganda, but eventually was never implemented. After: J. Maśnicki, *Niemcy kraj. Polskie motywy w europejskim kinie niemym (1896–1930), słowo/obraz terytoria*, Gdansk 2006, p. 94.

⁸⁴ *Ibidem*, p. 78.

⁸⁵ *Ibidem*, p. 80.

⁸⁶ *Ibidem*, p. 83.

he connected with Neo-Platonic intuitions, he stressed the importance of a system of covert correspondences in nature. Already during his lifetime the ambiguous reputation of a sorcerer-clergymen reflects perfectly well the transitional nature of science in this period.⁸⁷

While the syncretic worldviews of Paracelsus, Dee and Kircher may be treated as transitional forms, science historians do not easily reconcile with the fact that actually all the renowned representatives of the Scientific Revolution were practicing occultists, most often alchemists. The most eminent among them were: Johannes Baptista van Helinont (1579–1644), Johannes Kepler (1571–1630), Pierre Gassendi (1592–1655), William Gilbert (1544–1603), Francis Bacon (1561–1626), Robert Boyle (1627–1691), Gottfried Wilhelm Leibniz (1646–1716), and Isaac Newton (1642–1727).⁸⁸ Early science historians followed the pioneer of this discipline George Sarton (1884–1956) and tried to differentiate very sharply between 17th-century science and such “pseudo-sciences” as magic and alchemy, which directly preceded it in time. Today, however, they more and more often yield to the fact that for many of the early modern nature philosophers, including Bacon and Newton, these were not pseudo-sciences but components of the more profound lore of *Prisca Theologia*.⁸⁹ Symbolic of this shift may be the fact that in the contemporary *Encyclopedia of the Scientific Revolution* one of the two first dates discussed is the publication of the *Corpus Hermeticum* (1469).⁹⁰ Tara Nummedal directly observes that “if Newton took alchemy seriously, we should, too.” He admits at the same time that there were many alchemists and alchemies (*medica, transmutatoria, technica, mystica*), but he generally considered all alchemists as “early modern types.”

In the 16th and 17th centuries alchemy was a tempting career path not only for intellectuals but also for all those inclined to transgress social and geographic limits.⁹¹ Importantly, unlike the philosopher, the alchemist had to do more than just private practices and as a result his activity should be treated as social practice. For this purpose it proved necessary to develop a cultural identity of an alchemist, or, as Nummedal defines

⁸⁷ *Encyclopedia of the Scientific Revolution...*, p. 544.

⁸⁸ *Ibidem*, p. 593.

⁸⁹ *Ibidem*, p. 818.

⁹⁰ *Ibidem*, p. XXII.

⁹¹ T. Nummedal, *Alchemy and Authority in the Holy Roman Empire*, The University of Chicago Press, Chicago 2007, p. 10.

it, a mediating persona between the individual and his or her biography, and the social institution, society and culture where the individual lived and worked. The persona influenced the minds and bodies of individuals and at the same time developed a collective consciousness since it was shared and identified by a community. Being a “hybrid of individuals and communities composed of symbols, senses and values,” it evolved in time although, importantly, the discourse which had an impact on it was never institutionalised. The medieval alchemic tradition offered here only one set of possibilities: an alchemist was then a scholar, artist or prophet, and oftentimes all the three combined. In the 16th century, literary sources begin to reveal an alternative set of possibilities: an alchemist is portrayed as a caricature, as a fool, criminal, corrupt charlatan, or con-man. In the Middle Ages they were vilified within the framework of a general critique of knowledge and skills, while in the early modern era in the context of permanently warped morality. Defending themselves against similar allegations, alchemists, on their part, came up with the figure of an expert⁹²: though a satirically exaggerated persona of a fake alchemist, an anti-expert, fool, and con-man driven by greed and addiction still persisted. The impact of this dual imagery is observable e.g. in the adventurous biography of John Dee, full of trials and tribulations, especially in the tragicomic history of his relationship with Edward Kelley, his medium.⁹³ The repertory of bona fide and bogus alchemists included all kinds of practices with the use of optical devices.

Frances Yates once observed that paganism and magic were the quintessence of Renaissance humanism. They were to restore human dignity by changing human relations with the supernatural into a partnership based on – humble – imitation.⁹⁴ Yates stressed that the concept was almost successful since at the close of the 16th century “new philosophers,” followers of Hermeticism, used their best endeavours to persuade the popes that Hermeticism might be the doctrine which would reunite Catholics and Protestants. According to Yates, Giordano Bruno (1548–1600) was such an agent,⁹⁵ who openly adored Nicolaus Copernicus (1473–1543) as the one who opened the eyes of the human race to truly occult knowledge.⁹⁶ That is

⁹² Ibidem, p. 42.

⁹³ Ibidem, p. 48.

⁹⁴ F. A. Yates, *Giordano Bruno...*, pp. 161–162.

⁹⁵ Ibidem, pp. 182–185.

⁹⁶ Ibidem, p. 236.

why Bruno was not sentenced to death as a free-thinking scholar or a philosopher supporting the heliocentric system; but this is a far later legend. He was burned as a heretic and for a reason. Yates believes that only Galileo (1564–1642) could be burnt for a stand that resembled a 20th-century ideal of the scientific, as he transferred the dispute between Ptolemy and Copernicus into the realm of the purely rational. However, even Galileo exhibits influences of Hermeticism, which illustrates the variety of contexts in which heliocentrism could be located at that time.⁹⁷ It was at that time too that we should seek the (inevitably arbitrary) caesura between the Renaissance and the Scientific Revolution. Bruno's worldview "cleansed of animism and equipped with the laws of inertia and gravity replacing beliefs of the mental life of nature as the overriding principle of movement, understood objectively rather than subjectively" started to transform into Newton's mechanical universe, governed by its own principles created by God, who was no longer to be an archimagus but a mechanic and a mathematician. Therefore, we can say that the "retrograde" "magicisation" of religion in the 16th century actually contributed to the birth of scientific rationality in the 17th century.⁹⁸ A reservation is in order, however; natural philosophy cannot be identified with science as this would be an obvious anachronism. Neither can we assume that the Scientific Revolution meant the end of natural philosophy and the onset of modern science; it was too flexible, pliable and internally conflicted for that. Nor can it be interpreted as a rebellion against scholastic Aristotelianism, since it swallowed it, too. Rather than that, it was a zone of conflict, cooperation and shifts between the diverse branches of natural philosophy within the same worldview.⁹⁹

After the 17th century the organisation of optics as a science did not fundamentally change. Theoretically it originated directly in the philosophy of nature and, as to its methodology, from mathematics and experiment. An important caesura of its development was the fact that in the early 17th century Johannes Kepler (1571–1630) came up with a new concept of an image. In his *Ad Vitellionem paralipomena* (1604) he drew a significant distinction between "images in the air" and the projections onto a paper screen which Della Porta described. On this basis he differentiated between

⁹⁷ Ibidem, pp. 355–359.

⁹⁸ Ibidem, p. 451.

⁹⁹ P.R. Anstey, J.A. Schuster, *Introduction*, in eidem (eds.), *The Science of Nature in the Seventeenth Century. Patterns of Change in Early Modern Natural Philosophy*, Springer, Dordrecht 2005, p. 2.

imago and *pictura*, or virtual and real image.¹⁰⁰ In earlier texts on optics, the existence of a one-to-one correspondence between an image and its reflection was accounted for by observing that the refraction within the eye debilitated all sunrays apart from one, which precisely generates this image. Kepler countered this by a hypothesis that an image must be generated by means of a beam of rays emitted by an object. A crisp image is a result of rays emitted by one light source focusing in the centre.¹⁰¹ This concept intensified the development of astronomical and microscope observations, which focused on an avoidance of distortions of images generated by the then optical devices (these were dealt with by Isaac Newton, Robert Hooke, 1635–1703, and Christiaan Huygens, 1629–1695). The interest in projection devices decreased and soon they were treated as no more than toys.¹⁰² The solution of the problem of physical theology, or the proof that the practice of physics deriving from natural philosophy is not harmful for faith, proved dogmatically easy at this stage. As a result, physics soon lost its controversial nature and its practices lost the air of danger and mystery.¹⁰³

As can be surmised on the basis of the above sketchy evolution of the concept of natural magic and its links with the Scientific Revolution, the demarcation lines accepted at a given time between nature, technology, culture and the supernatural as areas of human activity in the surrounding world depend in large measure on the current level of understanding of the role of the human subject, its function and conditions. A radical change in this respect was determined by the Renaissance humanism of followers of Hermeticism, which attributed to the magus-philosopher a unique scope of agency and control of the (super)natural reality. Of special importance was the clearly optimistic interpretation of the cognitive and causative capabilities of an individual and a community in line with the accepted causes, course and consequences of decision-making processes, the understanding of the role and sources of knowledge used and created in the social context, and the recognised and approved possible motives for one's activity.

Here we may encounter an obvious temptation to simply extend the nature-culture dyad mentioned at the beginning of this text, fundamental for the theory of the social sciences, into the semiotic square of

¹⁰⁰ S. Dupré, *Images in the Air...*, p. 77.

¹⁰¹ *Encyclopedia of the Scientific Revolution...*, p. 730.

¹⁰² *Ibidem*, p. 731.

¹⁰³ *Ibidem*, p. 775.

nature-culture-supernatural-technology, ordered differently in different eras. However, the creation of such a construct would require a universal differentiation between them and, as I indicated in this and the preceding subchapter, it cannot be justified in any way. It is easy, however, to make this mistake if we analyse the ways pre-modern optical devices were used outside the perspective of the history of culture, without taking into account the worldview context of their invention. This mistake is committed even by such renowned representatives of media studies as Hans Belting¹⁰⁴ and Siegfried Zielinski,¹⁰⁵ who tied in the history of optical devices with the contemporary understanding of the scope of art, science and technology, but who shunned the reflection characteristic of culture studies. This leads to presentism, which seems the most conspicuous in the elimination from the archaeology of the media of today's incomprehensible notion of the supernatural, which can lead to a progressivist treatment of magi-opticians as counterparts of contemporary artists or proto-scientists.

This was the adopted approach also outside media studies when writing about the history of science, technology and philosophy. For example, Józef Dobrowolski in the only Polish biography of Giambattista Della Porta, the author of the first account of an illusionist optical effect called in the 19th century the Pepper's ghost effect (1558),¹⁰⁶ introduced Albert the Great as a "natural empiricist," Raymond Lull as a chemist, and Girolamo Cardano as a physician. Since in the case of Cornelius Agrippa the author could not come up with a convincing analogy for his alleged "proto-scientific" activity in any contemporary branch of science, no noun was applied to him.¹⁰⁷ In situations when we cannot avoid discussing practices and statements which are evidently non-scientific by today's standards as they refer *expressis verbis* to the supernatural, science historians sometimes take the liberty to arbitrarily divide these "irrationalities" into superior and inferior ones. For instance, Dobrowolski interpreted Della Porta's

¹⁰⁴ See H. Belting, *An Anthropology of Images: Picture, Medium, Body*, transl. Thomas Dunlap, Princeton University Press, Princeton 2014.

¹⁰⁵ See S. Zielinski, *Deep Time of the Media. Toward an Archaeology of Hearing and Seeing by Technical Means*, The MIT Press, Cambridge, Mass. 2006.

¹⁰⁶ G. Della Porta, *Magia naturalna*, vol. XVII: *O Niezwykłych Zwierciadłach*, chapter XII: *Jak ujrzeć w Komnacie rzeczy, które nie istnieją* [transl. of titles – M. K.], http://www.mindserpent.com/American_History/books/Porta/jportac17.html [19.04.2014].

¹⁰⁷ J. A. Dobrowolski, *Droga przez labirynty magii. Giambattista Della Porta (1535–1615)*, PWN, Warsaw 1990, p. 15.

interest in physiognomics as a token of a materialistic approach since the followers of this mantic and diagnostic practice believed that the root cause of a crime can be found in criminals' physiology and (hypothetically) genetics rather than in the stars, as the allegedly "more magical" astrologers did.¹⁰⁸ Dobrowolski ignored the fact that the assumptions of both these practices are contingent in equal measure on the faith in the agency of factors that are seen as supernatural today, while astrological practice contributed far more to present-day scientific astronomy than physiognomics to anatomy. Similarly, the fact that Della Porta ridicules the faith in the irreversibility of destiny can easily lead to an unjustifiable conclusion that he was generally sceptical toward all kinds of practices seen as magical today since he believed that a fatalistic approach is inadmissible as it is based on irrational grounds, and therefore his preferred approach was akin to contemporary rationalism, i.e. volitionalism and humanism.¹⁰⁹ This is no doubt an over-interpretation.

Unlike his Polish biographer, Della Porta himself was well aware of the ambiguity of the notion of "magic" and of the potential risks involved in a reference to it. Therefore, precisely the magus-philosopher idealised by Porta should, to his mind, study only those relations between phenomena and objects which allow "natural miracles" to occur. However, his terms *scientia naturalis* and *philosophia naturalis* should be read in the context of the period and we should not tear them out of it on the pretext of facilitating their better understanding, as was done by Dobrowolski, who incidentally in the very last paragraph of the aforementioned monograph undermined his own "materialistic" and "rationalistic" image of Porta when he wrote: "Even if he believed in astrology and magic, this faith by no means compromises him."¹¹⁰ In the example of Porta's works and of contemporary interpretations of the worldview these works demonstrate, we can clearly see that references to the context-based notion of the supernatural must prove of key importance for the explanation of the history of optical devices, evident during not only the reconstruction of the intellectual biographies of magi-opticians and their prototypical devices, but also of their practices when using these devices.

It should be stressed here that the technology of optics and optical devices is, like the technology of writing and the practice of reading an-

¹⁰⁸ Ibidem, p. 29.

¹⁰⁹ Ibidem, p. 31.

¹¹⁰ Ibidem, p. 139.

alysed by Roger Chartier,¹¹¹ a special case. For example, the invention of the device known as the Pepper's ghost described by Porta, to be further discussed in this text, boils down in fact to the observation of a natural effect which generates practices of its use and the implementation of the conditions that are conducive to these practices. Throughout the centuries this device was often re-discovered and perfected, its effect amplified, and yet the underlying pattern of its operation was as unknown in the 16th century as it is today since the role of the brain in the process of vision has not been fully understood to date.¹¹² At present, we are no doubt cognisant of more laws of physics, know more about anatomy and have at our disposal a larger number of more sophisticated optical devices than Giambattista Della Porta in the 16th century. Can we really make use of them more efficiently than Porta did? It depends on the practice we have in mind.

4. Technology vs. history in Fernand Braudel's approach

Technology is treated by both historians and laymen, whose perspectives are linked in different genres of popular texts, including school textbooks and encyclopaedia, as the prime distinctive feature of civilisation. The Chinese civilisation is most often defined in these texts by means of "powder, paper and fireworks," the Roman one by the "aqueduct, *opus caementicium* and *hypocaustum*," the Inca one by the "absence of a wheel," etc. Naturally, in more profound historical analyses such as Arnold J. Toynbee's (1889–1975) monumental work,¹¹³ civilisations have been identified and defined not only via characteristic products of technology (or their absence), but also via forms of social organisation, religious life,

¹¹¹ See R. Chartier, *Forms and Meanings. Texts, Performances, and Audiences from Codex to Computer*, University of Pennsylvania Press, Philadelphia 1995; R. Chartier, *Inscription and Erasure Literature and Written Culture from the Eleventh to the Eighteenth Century*, transl. Arthur Goldhammer, University of Pennsylvania Press, Philadelphia 2007; R. Chartier, *The Order of Books: Readers, Authors, and Libraries in Europe Between the Fourteenth and Eighteenth Centuries*, transl. Lydia G. Cochrane, Stanford University Press, Stanford 1994.

¹¹² See e.g. R. L. Gregory, *Eye and Brain: The Psychology of Seeing*, Michigan University Press, Ann Arbor 1968.

¹¹³ A. J. Toynbee, *A Study of History*, vol. 1–12, Oxford University Press, Oxford 1934–1961.

art, science, geography, languages, politics, especially the military one, identity, history, etc. However, this kind of approach is also inclusive of an archaeological element: a civilisation is identified and defined via an enumeration of its surviving artefacts, such as its inventions/discoveries and its characteristic innovations, created and disseminated within it and then also possibly spread outside of it. This manner of writing history can be called modern since it functions as another incarnation of the organic metaphor: it illustrates a gradual increase of the global knowledge potential – with technical knowledge occupying the pride of place – and thus of the permanent progress of humanity. On the other hand, it implies the existence of profound and stable borderlines between culture systems and contributes to Ernest Gellner's *The Big Ditch*.

The understanding of the role of technology for the post-modern and post-annalistic (i.e. strongly impacted by the social sciences, as Roger Chartier observes¹¹⁴) historiography, has been corrected on account of the increasing awareness of problems which the acceptance of the above manner of writing history triggers (generated first of all by the question about the limits of systems). The Annalists saw technology as a major determinant of human life, which, however, was not long-lasting and therefore conditioned human life to a lesser extent than e.g. climate or natural resources.¹¹⁵ Fernand Braudel observed unequivocally: “Technology is the queen: it is she who changes the world,”¹¹⁶ even though he noted at the same time that it should be described not only in terms of innovation but also as an “efficient traditional act” since “the routine movements” of e.g. a blacksmith, farmer or sailor are culturally learned, a result of “accumulated knowledge.”¹¹⁷ He, moreover, explained that: “Everything is technology: a sudden effort as well as a patient and monotonous pressure of people onto the external world, abrupt transformations which we rush to call revolutions [...], but also slow ways of improving modes of work

¹¹⁴ R. Chartier, *Introduction*, in idem, *On the Edge of the Cliff. History, Language and Practices*, transl. Lydia G. Cochrane, The Johns Hopkins University Press, Baltimore – London 1997, pp. 3–4.

¹¹⁵ For Fernand Braudel geographical time is the longest (*longue durée*), “human” time is short and the time of technology of medium duration. In his work he did not address, however, the period from the latter half of the 19th c. onwards, when the duration of technology was curtailed.

¹¹⁶ After: F. Braudel, *Kultura materialna, gospodarka i kapitalizm XV–XVIII wiek*, vol. I: *Struktury codzienności*, transl. Maria Ochab and Piotr Graff, PIW, Warsaw 1992, p. 356.

¹¹⁷ *Ibidem*, p. 277.

and tools.”¹¹⁸ He repeatedly stressed that the appearance of an invention as a technological prototype does not bring about a breakthrough since it does not generate a sustainable change. It happens that inventions (often) need to wait whole centuries to shift from the stage of *inventio* (Braudel defines this stage as “pro-revolutionary” or “evolutionary”) to that of *usurpatio* (mass practical use). They are implemented only when “society attains an adequate level of readiness” rather than, as it is commonly believed, when “specific branches of technology or science are ready for it.”¹¹⁹ The Nestor of the Annales school fittingly points out that e.g. prior to the invention of the steam engine, many of its component elements had been invented, such as the clogged wheel or the transmission shaft, and they were gradually perfected but, contrary to expectations, work on them did not result in any technological breakthrough. Only the appearance of the steam engine ushered in an abrupt change that profoundly affected all fields of human life.¹²⁰

And so “In the history of technology acceleration is as frequent as slowdown, often consecutively,” as a result of which progress is “marked by abrupt development leaps interspersed with long periods of stagnation.”¹²¹ It should be stressed at the same time that especially “basic technologies are [...] extremely sluggish. The thread of innovation meanders among them very slowly,”¹²² while all the regulations of copyrights and ludist movements may additionally slow down the implementation process.¹²³ Moreover, in history we deal with numerous “failed revolutions” which needed a mere “component or two to be successful” as well as with “isolated and useless inventions as purely a game of the mind.” Many 19th-century optical devices are just such a case in point since they either remained at the prototype stage as cautiously guarded illusionist sorcerers’ tools or never stopped being playthings only. Braudel did not suggest any simple explanation why the future of technological innovation cannot be foreseen. He seems, however, to put it down first of all to the systems of knowledge distribution. It can be easily demonstrated that unless there are efficient networks of knowledge distribution within and between communities

¹¹⁸ Ibidem, p. 278.

¹¹⁹ Ibidem.

¹²⁰ Ibidem, p. 306.

¹²¹ Ibidem, p. 354.

¹²² Ibidem, p. 317.

¹²³ Ibidem, p. 356.

(in Europe their efficacy increased significantly only in the 17th century), technological progress is slow and uneven (e.g. military technologies develop intensively while transportation ones lag behind).¹²⁴

Braudel highlighted the fact that neither the industrial revolution nor “any other endeavour of production and exchange” can be interpreted only in terms of an economic process since the economy is not a separate and autonomous zone.¹²⁵ The sustainable growth potential is invariable the question of undisturbed long-term processes, or more exactly of the superimposition of a short time, which generates unbalanced development in leaps and a long-term one. Growth is a “relay race that cannot be interrupted; one invention needs to take over the baton from the another one.” Each process of growth has its historically determined “limits of the possible” (e.g. constraints on the available sources of energy), while the present day can be, according to Braudel, defined first of all by the fact that the limits are constantly being pushed back. Therefore, in his opinion, all revolutionary technical breakthroughs are in effect only a historiographic rhetorical figure.¹²⁶

Braudel, therefore, assumed the autonomy of technology in that, noticing the inevitable intermeshing of technology and culture, he did not naturalise technology as an element of the human ecosystem and thus did not interpret technology as ecology, as it is increasingly understood today. After all, not only in recent decades has technology radically modified the conditions of human life, transforming, moreover, geography and climate. At the peak of Braudel’s research, this is what happened across the globe and triggered changes unforeseen at that time, whose long-range consequences continue to be felt, and are accumulated, and their final effects remain unknown. When Braudel published *The Mediterranean*, the Aswan Dam was being designed, and as a consequence of this technological project the order of the Mediterranean world treated by the author as having long-term effects, expressed already by Herodotus (“Egypt is the gift of the Nile”), was deconstructed. No text by the French scholar implies that he took such a possibility into account and considered its potential consequences.

That we should accept Braudel’s approach to the relation between technology-culture-nature (culture and nature determine technology, while

¹²⁴ Ibidem, p. 317.

¹²⁵ Ibidem, p. 508.

¹²⁶ Ibidem, p. 552.

technology has in turn an impact on culture, but does not impact nature in a way that the historian cares to mention) is helped by the ease with which we can indicate that technology is more than any other sphere vulnerable to the impact by human beings taken collectively and as individuals, naturally formed by the culture they live in. Of special significance in this contest are the notions of invention and inventor, at present additionally backed up by the concept of copyrights. Their popularity gives a mistaken impression of constant “revolution,” “breakthrough,” “novelty,” or “innovativeness” of the history of technology, and the striking quantitative supremacy of innovations never implemented triggers a perception that the products and practices of technology are ephemeral, temporary and elusive. This conviction is rarely shared by scientists with laymen, while Braudel’s concept illustrating the slow pace of the rhythm of human history stems among others from an opposition to him. Despite the awareness of the justifiable nature of these reservations, the histories of technology are invariably written in a manner to punctuate their course with inventions or inventors’ names and therefore erroneously seem to the reader as never-ending chains of radical innovations, instantaneously and inevitably implemented and effecting fundamental shifts in human life, without any element of a stagnant *status quo*, whose consideration was recommended by Braudel. This is evident also in the many histories of optical devices, for instance in attributing to Della Porta the role of an inventor-innovator of an optical device, which was called in the 19th century. Pepper’s ghost, only because he was most likely the first to provide its description, obscure and cursory at that.

5. Innovation and change

Braudel’s interaction model between subjectivity and the history of technology in large measure depends on the general approach to the subject of change. Therefore, at this point we should consider the significant theoretical distinction between innovation and change, proposed by sociology and historical sociology.

Sociology is the social science that has the most to say about change as it was called upon to analyse it and “change” remains its principal subject of interest. It is at the same time particularly focused on the social dimension of change, as well as on the present and future (whereas

anthropology, akin to it in many respects, concentrates on the past and continuation). Therefore, the principal theoretical problem for sociology is the contradiction between the observation of parallel trends of change and stagnation. Oftentimes the process of change is described by sociologists in the teleological perspective as an innovation factor seeping through inertia (anthropologists in turn exhibit the effects of the “assault” of change on the immutable, stressing the fragility of tradition). Sociology, incessantly grappling with this issue – incidentally increasingly seen with a “historical coefficient” – proposed the most precise definitions of innovation and change. Naturally, these definitions concern first of all innovation and social change, but can also be applied to technology and culture.

Piotr Sztompka observes that change is a non-periodical transformation of institutions, norms, culture, and social structure, determined by the difference between their initial state and their state upon an elapse of a certain time. For sociology, change most often applies to the composition of the social system, social structure, social functions, system limits, and relations between social subsystems and the system environment. Contemporary sociology rejects the concept of the dominant change factor, but recognises the subjective factor as key, post-progressivistically assuming the constructivist nature of the “generative force.” We should at the same time notice that this science uniquely interprets the notion of the subject. It is determined by the following:

- a) individual features of acting individuals, first of all their motivation and potential for creating innovation and adopting it,
- b) structural features (e.g. offering an individual a lot or a few options to choose from),
- c) environmental features (e.g. rich or poor in resources),
- d) the role of tradition in a given community – objective (e.g. when it is internally coherent or contradictory) and subjective (e.g. it is respected or disregarded),
- e) expectations of the future of a given culture (e.g. optimistic or catastrophic).

In the early years of sociology, subjectivity was dehumanised; later, however, there was a return to the intuitive conviction of the leading social role of outstanding individuals whose features are to embody group objectives. The present-day sociological approach to subjectivity rules out the impact of individuals on change induction. This impact is exerted by social roles, especially those implemented in the contexts of the institutions

of power. It is very generally accepted that the individual, as such, cannot be a trigger of change, but change is invariably effected by a group of individuals, or by a collective entity, which is deliberate or not (as a result of the disordered daily activity of individuals) or planned (with a special role of communities who wield power and all kinds of pressure groups). In turn, innovation is seen by sociology as a simultaneous approval of the goals determined by the values of a given social group or society and the rejection of those ways of their implementation which have the status of traditional ones in a given axiological system. To use the language of the regulation of the social culture concept, the emergence of innovation would mean a public expression of the suggestion of introducing a new directive into the norm and directive dyad.

Inspired by texts by Robert K. Merton, who defined innovation as a kind of social deviation,¹²⁷ contemporary sociologists like to study the trajectories of innovations diffusion, seeking in them recurrent patterns. They assume that in order for innovation to take hold, its initiation is by no means sufficient. Efforts to disseminate it by raising the social awareness of the knowledge about an alternative manner of implementing a given value may not suffice to implement it, either, although naturally without the widespread dissemination this is impossible. Filtering is the decisive stage of the innovation implementation. Here members of a community select a manner of implementing a given value. This selection results in a collective rejection and/or approval of some of the possible ways. If a given proposal is approved, a further distribution of innovation takes place. This stage, however, by no means concludes the implementation process. Following the stage of filtration we may deal with:

- compensation – when the innovation is so controversial that it induces a strong reaction of rejection and protest and is extinguished or
- amplification (augmentation), when the innovation is favourably received.

If the innovation is amplified:

- we can deal with over-compensation – when the new proposal becomes excessively popular very quickly and as a result it is later rejected;
- insulation (freeze) – the innovation becomes popular only in a given area and does not spread further,

¹²⁷ See R. K. Merton, *Teoria socjologiczna i struktura społeczna*, transl. Ewa Morawska, Jerzy Wertenstein-Żuławski, Wyd. Naukowe PWN, Warsaw 2002, pp. 197–224.

- dispersal – the innovation effects a complex change in different areas but the *status quo* is intact,
- legitimacy, or the final authorisation of change. Only in this last case can we say that a given innovation has been accepted.¹²⁸

Therefore, not all innovation results in permanent change. The above chain may be interrupted at any stage; there can be also the reversals, repetitions and omissions of some stages. We should remember at the same time that although innovation may be proposed by an individual, no subject is capable of controlling the entire process of innovation diffusion, and most innovations of them will never receive approval. Florian Znaniecki observed that an innovation will not get past the filtering process if it is not linked with something recognised previously as important and clearly expressed in a given culture. Approaches inspired by Znaniecki pay special attention to the individual decision-making process, which is connected with the aforementioned broad study subject, i.e. the individual and his role for the generation of change. The most important problems of change generation can be summarised as follows:

- An individual participating in the process of generating innovation may belong to a group in a particular way predisposed to implement this task, e.g. to the elite of a given community, which identifies the major problems and comes up with their solutions. This situation begs further questions about the role of those who select change. Who is the first to notice the problem? Why do these particular individuals get involved in the solution process? Do they solely play the role of transmitters or are they capable of modifying the formulation of the problem and propose its solution? Finally, what makes them choose change rather than conservatism?
- We must not forget that innovators may have their own personal motivation and this may stem from the compensation of their individual ill-adaptation. This observations also provokes a number of questions. Why do some individuals blame themselves for their inability to adapt while others put the blame on the system and try and reform it? Why do some individuals adapt to their conditions while others actively work for the sake of reform, and still others can only fantasise about it (utopians)? Why do some individuals endeavour to reform precisely the area where they personally have failed before, while others choose another field? Why,

¹²⁸ P. Sztompka, *Socjologia zmian społecznych*, Znak, Cracow 2005, p. 234.

finally, is innovation sometimes introduced by individuals who are the best prepared while others are happy to conform?

– Why do imitation lines sometimes intersect and, e.g. an individual is innovative not only in the field connected with his or her experience but in other fields as well, while other individuals of the same society try to carefully isolate their lines of imitation, e.g. religion and science?¹²⁹

Znanięcki definitively maintained that replies to all the above questions must be found first of all in the local and historically-determined cultural conditions.¹³⁰ Today, too, the observation that cultural criteria are an important reason for (not) implementing innovation – both social and technological ones – does not arouse serious doubts. However, the history of technology often leaves out this fact since it lacks the perspective of culture studies. The location of the history of optics, especially intensively explored and addressed during the Renaissance and the Scientific Revolution, in the context of the then shifts of the Western worldview, helps explain why a major part of its practices related to projection devices, no doubt innovative, and stagnated then in the *Kunstkamera* and salons. During the Renaissance, the filtering of innovation was more difficult because of the form of description, typical of the then system of knowledge distribution. The fact that the most frequent innovation was the practice of illusionist projections (magical, charlatan, and later entertainment), where the complete effect relied on hiding the projector and keeping secret the way of its operation, contributed to the situation that individual optical devices often remained but prototypes that disintegrated after the death of their authors, who were the only ones to have the wherewithal to operate them and tried not to reveal them despite the risk involved in a suspicion of performing demonic magic. This led to the insulation of this innovation. Thus, the adoption of the perspective of the history of culture helps explain that until the time of inventing chronophotography in the second half of the 19th century, technological innovations in the area of projection optical devices were unable to generate a lasting change.

¹²⁹ F. Znanięcki, *Badania nad twórcami kultury*, in K. Łukasiewicz (ed.), *Wokół koncepcji kultury Floriana Znanięckiego*, Oficyna Wydawnicza Arboretum, Wrocław 2008, p. 12.

¹³⁰ *Ibidem*, p. 24.

6. Technology as culture¹³¹

Polish translations of English texts on media studies repeatedly make a certain translation error, copied later in the Polish texts. The English term *technology* means, or can be translated into the Polish word, “technika,” but is often mistakenly translated as “technologia.” In Polish the word “technologia” means: 1) a certain process of producing or processing an object; 2) a method of preparing and carrying out this process; 3) knowledge of the course of processes of producing or processing with the use of specific technical means. “Technika,” in turn, is the sphere of human activity consisting in the creation of phenomena and objects that do not occur in nature.¹³² The term “technika” refers then to tangible practices and their effects, while “technologia” means a *quantum* of knowledge about the construction of the latter, their operation and possible uses.

The ideational approach to the social sciences culture, too, can be defined as a certain quantity of socially-shared knowledge – not only a knowledge that is consciously accepted and explicitly approved (*knowledge that*), but also tacitly respected (*knowledge how*).¹³³ In the approach of Jerzy Kmita’s social and regulatory concept of culture, this knowledge is composed of normative beliefs (establishing the values that are the sought-after objectives) and directive-related (indicating the activities to be carried out to achieve the objectives). These beliefs are the context of each broadly-construed activity of an individual participating in culture. The above concept is inclusive of the belief of the anthropologist Ward H. Goodenough, who notices that “the culture of a given community is composed of all that needs to be known or believed in to act in a manner acceptable for its members [...]. If culture is what people are to learn, unlike what they inherit biologically, it ultimately is the result of learn-

¹³¹ This subchapter is partly based on the text: M. Kamińska, *Kategoria kontekstu w naukach społecznych a fenomen zapisu wiedzy potocznej w Internecie*, in A. Dytman-Stasięńko, J. Stasięńko (eds.), *Język@multimedia3. Dialog – konflikt*, Wyd. Naukowe Dolnośląskiej Szkoły Wyższej, Wrocław 2012, pp. 117–128.

¹³² See *Słownik wyrazów obcych i zwrotów obcojęzycznych Władysława Kopalinskiego*, <http://www.slownik-online.pl/kopalinski/D4A541E44CEBB6E1C125659D000AB1C5.php> [19.04.2014]; *Encyklopedia PWN*, <http://encyklopedia.pwn.pl/haslo/3985964/technologia.html>; <http://encyklopedia.pwn.pl/haslo/3985955/technika.html> [19.04.2014].

¹³³ J. Kmita, *Późny wnuk filozofii. Wprowadzenie do kulturoznawstwa*, Bogucki Wydawnictwo Naukowe, Poznań 2007, p. 14.

ing: it is knowledge in a most general and relative sense of the term.”¹³⁴ Depending on the research objectives sought in the operationalisation of the notions of culture and knowledge, they can be – as in the case of the above concept – identified or – for the purpose of making more detailed analyses – differentiated, at least on the theoretical level. The latter scenario is exemplified by the concept of the anthropology of knowledge put forth by Fredrik Barth.¹³⁵ In his opinion, knowledge is all that an individual uses to interpret the world, impact it and anticipate future events. Knowledge derives first of all from the individual’s personal experience, and secondly from the individual’s inferences based on the data collected. It gains adequacy only during social interactions (of particular importance here is the institutionalised process of learning from others).

To be more precise, Barth observes that we should distinguish three aspects of such knowledge, interconnected and present during each and every process of its exchange. Firstly, the mental aspect: each tradition of knowledge is made up of a certain number of statements and concepts that are subsumed in a worldview and serve the description of the world. Secondly, the media aspect: knowledge must be expressed and communicated through a medium or media as a series of partial representations in the form of words, symbols, gestures and actions. Thirdly, the social aspect: knowledge is never a closed and abstract system but is meant to be distributed, communicated, used, and transmitted within the interconnected and institutionalised social relations. These three aspects of knowledge are, according to Barth, inseparable and co-determinant. For the sake of methodology they can be interpreted as its development stages, which becomes especially important if a researcher intends to analyse the trajectory of its change. The state of knowledge changes dramatically not only in the course of history but also – or first of all – in the context of social relations, or in the course of its transmission between, both individuals and populations.

The author of *Ethnic Groups and Boundaries* most probably refers here to – no doubt easier to grasp in the anthropological field research – a knowledge which Kmita defines as a *knowledge that*. In light of Barth’s observations we cannot, then, equate the notions of knowledge and culture; the latter turns out to be a broader term. The difference between them

¹³⁴ Ibidem, p. 55.

¹³⁵ I summarise this concept on the basis of: F. Barth, *An Anthropology of Knowledge*, “Current Anthropology” vol. 43, Number 1, February 2002, pp. 1–17.

can be summarised as follows: culture “is,” while knowledge “becomes.” For instance, for a piece of information to become an item of knowledge construed in a certain way, it must be transmitted, read, understood, used, and incorporated into the existing, socially-constructed structures of the worldview, or images of the world which later make up permanently updated contexts of concrete cultural and social actions. Therefore, the knowledge lost – no longer mediated and not transmitted and thus not socially updated – ceases to exist as such, while a “dead” culture, with no living participants, such as the culture of ancient Rome, can still be called culture. We may have no knowledge on a given subject or have inadequate knowledge, but there is no individual human being who has participated in no culture and in none of its fields, who would him or herself be “erroneous” or “inadequate.” Knowledge offers individuals food for reflection and premises to take action, while the notion of culture comprises both the premises and reflections and actions of the participants as well as the tangible effects of their actions. Knowledge is socially-distributed and thus deliberately transmitted from someone to someone else; in turn, culture is internalised in the course of social contacts and disseminated through diffusion. In addition, in order to communicate successfully, actors must share a certain quantity of knowledge which is the context of any act of communication. At the same time they must – at least as an initial assumption – not share a certain *quantum* of it since otherwise communication between them would not be necessary (and would not take place). Considering this question on the macro level, we may conclude that if all the actors of the interaction had an identical quantum of knowledge, the society where such interaction takes place would not be structured in the way we are familiar with, i.e. it would be impossible to distinguish within it non-identical positions, statuses, roles, groups, and social norms.

The field of cultural and social knowledge may also be ordered according to a key characteristic of sociological approaches. Under this approach, knowledge is a “set of interconnected messages concerning the entirety or a fragment of reality, which at the social level produces uniform, consolidated and objective products of social consciousness, developing thanks to its cumulative nature and being a platform of social differences.”¹³⁶ Sociology, which has primarily studied Western societies over the past 150 years, distinguishes two types of knowledge. The oldest type occur-

¹³⁶ K. Olechnicki, P. Załęcki, *Słownik socjologiczny*, p. 243.

ring in all cultures and societies is so-called commonsensical knowledge, otherwise known as common knowledge, pre-scientific or doxal. Its scope is analysed relatively rarely. It is most often defined as a “total amount of knowledge necessary for an efficient, everyday operation, shared by all or most of the members of a society; [...] it comprises insight into the basic reality, phenomena and social processes.”¹³⁷

In the wake of changes in occidental culture, most notably during the Scientific Revolution, a unique and separate kind of knowledge emerged. This was scientific knowledge: a global product of social scientific practice, constantly systematised, uniform and accumulated thanks to scientific reflection, studies and discoveries.¹³⁸ According to Kmita, this area of culture produces knowledge that functions as a means of technologically efficient actions. Characteristic of this knowledge type is the overriding value of “truth” or at least the “approximation of truth.”¹³⁹ Concurring with the last statement, we should at the same time make a reservation that this is a category of truth meant very uniquely, originating in the local philosophical tradition. As the anthropologists and philosophers inclined to relativism have observed, an image of what is the truth of a given community is developed on an individual basis through the social context of a wide, culturally-conditioned and transmitted worldview. If the appearing innovative element of knowledge about the worldview fits earlier conviction and beliefs, it will be accepted by culture participants and if not, it will be rejected by them.

The approximation of the accomplishment of the value defined as truth is first of all meant to instil coherence through the implementation of cohesion (a monistic worldview) or balance (a binary perception of the world), which offers a sense of comfort and frees one from uncertainty.¹⁴⁰ What is deemed as true in a given society and in a given culture is, then, established on an ongoing basis via the recognition of a new element as a familiar one, its adjustment to the social knowledge context.¹⁴¹ Nevertheless, in the everyday life of contemporary occidental cultures and in traditional societies, the commonly acceptable method of arriving at the

¹³⁷ Ibidem.

¹³⁸ Ibidem.

¹³⁹ J. Kmita, *Późny wnuk filozofii...*, p. 80.

¹⁴⁰ F. Fernandez-Armesto, *Historia prawdy*, transl. Janusz Ruskowski, Zysk i S-ka, Poznan 1999, p. 46.

¹⁴¹ Ibidem, p. 47.

truth does not consist in reasoning or the acquisition of knowledge via participation in a system of institutionalised education, but first of all via the acquisition of personal experience. In turn, in the model of scientific knowledge, reliance on the argument of personal experience is – at least at present – seen as discrediting.¹⁴²

In the 20th century representatives of science indicated that apart from the zone of the human senses there is an infinite micro- and macrocosm, which has caused an even greater departure of *episteme* from the commonsensical perception of the category of truth, which – it seems – irreversibly ceased to be identical with the notion of experienced reality.¹⁴³ We can say, then, that Western scientific knowledge in the course of development and as it grew more and more institutionalised, was increasingly antagonised to its source, i.e. the pre-scientific, pertaining to the entire society, historically changeable and one-sided commonsensical knowledge. Sometimes it treated it as inspiration but more often as an inimical and reprehensible type of social awareness (superstition, myth, deception), a false knowledge that obscures the image of “truth” which was an – at least a declared – objective of the reflection of scientific knowledge. This latter belief was especially evident in the second half of the 19th century within the different offshoots of positivism, especially scientism and empirio-criticism, which made their indelible imprint on the emerging individual social sciences. The generally construed *episteme* developed a general and unique methodology, which was to allow it to come maximally close to the realisation of the above value. This strategy was formulated as radically different or antithetic to the way of conduct used in the course of the acquisition, usage and distribution of elements of one-sided commonsensical knowledge, known to all participants of culture and members of society.

The characteristic features of the two patterns of knowledge acquisition, indicative of two antagonist approaches – of everyday life, “natural” and scientific in the sociological sense – were in the second half of the 20th century compiled by Harold Garfinkel. As a sociologist with an etno-methodological bend, he was mainly interested in observing actions indicating the context of the *knowledge how*, which by definition was inexpressible. Garfinkel indicated a total of fourteen “rational behaviours,” the first ten of which were seen as characteristic of the “natural approach” connected with common knowledge, and the last four as typical solely of

¹⁴² Ibidem, p. 110.

¹⁴³ Ibidem, p. 234.

the scientifically rational (so-called “excluded rational”). The last are to be permanent features and sanctioned ideals only in disciplines governed by “an approach of scientific theoretising.” Garfinkel’s “rational behaviour” is: 1) categorisation and comparison, 2) efforts to minimise mistakes, 3) pursuit of practical solutions, 4) analysis of alternatives and consequences, 5) foresight and strategic planning, 6) interest in the sequence of events, 7) reduction of unforeseen events, 8) social behaviour and locally binding procedural rules, 9) choice, 10) motivation of choice, 11) alignment of the means-objectives relation with the principles of formal logic, 12) semantic clarity and precision, 13) clarity and precision as an objective in themselves, 14) alignment of the definition of a situation with scientific knowledge.¹⁴⁴

The above differences of approaches to knowledge consist first of all in divergent initial assumptions, as many as five of them according to Garfinkel: 1) the natural approach is primarily characterised by empiricism: a “practical theoretician” assumes that the objects he or she encounters in the world are what they seem to be. The expectation is that there is a correspondence between the appearance of the object and the imagined object that appears in a particular way. In turn, an individual with a theoretical and scientific bend should doubt such a correspondence. 2) an individual with a doxal bend – unlike the one with an epistemic approach – gathers knowledge that, when ordered, makes up a worldview, only for practical reasons. Therefore the events and relations between them and the structure of causal relations are not an object of theoretical interest. As long as the individual making use of them is capable of effectively functioning in the world, he or she does not verify the appropriateness of the model at his or her disposal. 3) In his or her everyday activity an individual addresses a “stream of experiences, splits it into bits and pieces” and orders it chronologically. The individual tries to coordinate personal “inner time” with “social time.” at present measurable “standard” time is used for this purpose. 4) An individual with a doxal bend assumes that all particular partners of the interaction use the same communication pattern. In turn, the one with an epistemic approach invokes a “universalised everyone.” 5) A “practical theoretician” believes in “hidden knowledge” which according to him or her helps control the communication process, defining the

¹⁴⁴ H. Garfinkel, *Racjonalne cechy działalności naukowej i potocznej*, transl. Danuta Lachowska, in E. Mokrzycki (ed.), *Kryzys i schizma. Antyścientystyczne tendencje w socjologii współczesnej*, vol. 1, PIW, Warsaw 1984, pp. 894–908.

actors' interests. A "scientist-theoretician" in turn follows the conditional imperative urging him or her not to distinguish in their statements between private, or covert beliefs, and public, or overt ones.

The two divergent sets of assumptions and behaviours as well as the attendant two approaches give rise to two logically exclusive sets of events. According to Garfinkel, "where actions and social structures are subject to the assumptions of everyday life, each attempt at consolidating [...] the features of the scientifically rational or at the coercion to respect them by a systematic use of awards and punishment, causes an increase of the anomie features of interaction."¹⁴⁵ Following in one's everyday life of the pattern characteristic of the scientific rational would effect a sea change in the way of structuring events and their interrelations, and as a consequence – a disturbance of this activity and its inefficacy. This is caused by the fact that the interests (objectives) of ("practical") life and scientific theorising are divergent. Nevertheless, the model of the scientifically rational was for a long time in the development of the social sciences treated as universally binding. It was designated by *episteme*, which developed its system as the dominant thinking pattern compared to any culture and any of its spheres, using it as the basic tool of constructing categories for the description of behaviours (and led to the differentiation of rational, irrational, non-rational, and a-rational behaviour). Individual human actions, and as a consequence also the entire culture that generates these actions, were classified according to how they facilitate the realisation of this model.¹⁴⁶ In the global endeavour of examining societies and cultures, which are the object of studies of the social sciences, the application of the above model hampers analysis since it prevents reaching the key senses and – through them – the understanding of the social and cultural knowledge whose character differs from today's scientific knowledge. This applies also to studies of the cultural history of optical devices. We cannot apply here explanations appropriate only for the dualistic knowledge model, since part of this history was written at a time when such a model did not obtain. A similar thing happens in the case of attempts at separating nature, technology and the supernatural in the practices of early opticians. This results in absurd hierarchies and valuations of these practices and the devices used, similar to the aforementioned attempts to group Agrippa and Dee with sorcerers and Porta and Newton with scientists.

¹⁴⁵ Ibidem, p. 203.

¹⁴⁶ Ibidem, p. 201.

Clifford Geertz observed that interpretations of phenomena conducted by culture scholars following the epistemic model lay bare the relative character of the categories they use and as a consequence the uncertainty of the conclusions they came up with. Because of that, the author of *Available Light* suggested a different methodology of research and construction of description. According to Geertz, a culture scholar should – without relinquishing his or her own knowledge yet being aware that it is “always someone’s” – should concentrate predominantly on the knowledge, which scholars use in their everyday life (“local knowledge”). He or she must remember at the same time that it is composed of complicated and variable sets of symbols, which acquire and express significance only as a result of actions taken by the individuals participating in a given culture. At the same time it is impossible to ultimately and unequivocally determine what a given symbol or action means since depending on the context, i.e. situations, ways of use, particular interests of specific groups and individuals, it may mean different things. Under this approach, the scholar’s underlying objective is to understand the meaning ascribed to their actions by participants of culture, rather than e.g. the evaluation of these actions with respect to their conformity to a particular knowledge model. We cannot lose sight of the fact, however, that a scientist cannot fully erase from memory his or her own knowledge, and therefore needs to reconcile with the thought that a full understanding of a culture different than his or hers is impossible. There is no establishing a convergent and indefinitely valid version of truth for those who study and the studied ones; it is only possible – according to Geertz – to reach a tentative, shaky, uncertain, and short-lived agreement between them. For these reasons the author of *Negara* proposed a project of “thick description” which would approximate as closely as possible the description of culture in the eyes of its participant. The aim of adopting a particular research methodology was to understand how the members of a given culture assign significance to events and establish their hierarchy and thus how they work on a knowledge system that imparts sense to their worldview. Therefore, the scholar should aspire to acquire the elementary “knowledge of knowledge” peculiar to a given culture.

A “thick description,” whose author is not limited to classifying “facts” but tries to interpret their sense,¹⁴⁷ must therefore take into account the

¹⁴⁷ C. Geertz, *Opis gęsty. W poszukiwaniu interpretatywnej teorii kultury*, in idem, *Interpretacja kultur. Wybrane eseje*, transl. Marta Piechaczek, Wyd. Uniwersytetu Jagiellońskiego, Cracow 2005, pp. 20–21.

cultural context, which is determined by the access to a given quantity of knowledge, concentrating on the significance of an action and its symbolic role assigned to it by the actors and, through them, society. A “thick description” perceives culture as a context where the action taken acquires significance and which changes under the influence of this action since it is always a dynamic process of re-formulation and re-interpretation, taking place via the actions of individuals. The author of *Negara* followed Victor Turner and observed that those symbols that play the role of a media of significance, have three principal features: condensation (one symbol may correspond to a variety of senses, actions and meanings), ambivalence (a combinations of contradictory and mutually exclusive meanings), and finally polarisation (with both a sensual component, i.e. form, and mental component, content). Because of the characteristic features of symbols seen as the media of meaning, the last always develops in a social and dynamic way, dependent on who uses given symbols, to what end, in what situation, and how. This perception of culture indicated an inseparable connection between the actions taken by members of a given community and their significance rooted in constantly updated quantities of knowledge. Each action of social actors transforms and updates the resources within whose context it takes place and which determine it.

No action can thus be adequately interpreted without the knowledge of its cultural context which, under certain (aforementioned) conditions, may be seen as a certain quantity of knowledge. This principle applies also in the case of action with the use of technological tools. Taking up and understanding this action calls for a local knowledge about a given object, tool or material, how it is constructed or what it is composed of, how it works, what kind of practices it is usually used for and what other uses can it be put to. Because of this, technology discussed without the context of Geertz’s “local knowledge” must prove to be only a chaotic set of objects of unclear purpose and, perceived together with it, can no longer be interpreted as culturally, ethically and politically neutral, independent of the prevalent value system of a given culture, one that both does not impact this system and is free from its impact.

The above indication is corroborated by texts written by technology historian Arnold Pacey, who proposed an interpretation of the notion of practice as a set of skills and body of knowledge on the use of technology, located in the context of a given culture. At the same time he suggested a distinction of such a practice from technology. The efficacy of technology,

as demonstrated by Jerzy Kmita, theoretically should not be determined by the impact of its symbolic culture, but nevertheless access to it may generate totally divergent practices in different cultures and historical contexts, which may also result in a decrease in this efficiency. Unlike for Kmita, the technological and application zone for Pacey is interactive. We can distinguish within it technical, organisational and cultural levels. It may be construed as a sum total of the forms of applications of scientifically, but also of culturally organised knowledge for practical purposes. As such, it is an element of historically ordered systems composed of people and organisations, living creatures and machines. It is wrong, then, for a historian to focus solely on the material aspects of practices: machines, technologies or a record of knowledge, and to leave out their cultural and ethical aspect (after all, technology furthers culturally determined values of the rational and efficient). This is a common mistake made by both historians and political decision-makers who often succumb to an illusion that individuals, once offered access to a given technology (e.g. computers), will immediately start to use it in a pre-determined and expected manner. However, in appropriate cultural and technological circumstances this is not what is going to happen. Pacey calls this groundless assumption the “technological imperative.” This is linked to a belief that as long as a technology capable of being used in a specific way is available in a given place at a given time, this use will inevitably be made. The technological imperative stems from determinist thinking and partly also from personal experience and beliefs (e.g. many engineers are certain that they work in the field of technology since this is joyful and pleasurable for them, which may be an end in itself).¹⁴⁸

Pacey decisively criticises the afore-discussed historiographic strategy of marking stages of the history of technology by successive inventions-innovations. They are used as markers of progress only because they are easy to capture. Their de-contextualising from practice leads, however, to the mistake of the technological imperative, which may end in the inevitably doomed use of their previous history to predict the future. Another negative effect is the disregard of the difference between innovation and change and the attendant impossibility of explaining the dynamics of Braudel’s “accelerations” and “slowdowns.” For instance, the Scientific Revolution was not propelled by the relatively small number of applications of scientific

¹⁴⁸ A. Pacey, *The Culture of Technology*, The MIT Press, Cambridge, Mass. 2000.

discoveries to develop new technical solutions, as it is sometimes mistakenly believed. This change consisted rather in the promotion of a more efficient style of knowledge distribution, related first of all to ways of problem analysis (the most important of which was description, as indicated above) and to finding their solutions (preferentially through experiments, originating in magical practices). Because of this, technical concepts could finally be publicly formulated and their applicability started to be demonstrated on the basis of systematic measurements, classification and the comparison of available data. Only the amplification and legitimacy of this change facilitated the precise conceptualisation of the phenomena under scrutiny, facilitating the formulation of problems with the aid of precise and clear theoretical terms. It then allowed moving beyond the constraints of technical improvements achieved by craftsmen's methods and, via successive acts of amplification and accumulation of collectively verifiable knowledge, contributed to the emergence of the mechanistic paradigm, which was the most influential worldview model of the Scientific Revolution.¹⁴⁹

To sum up, practice, according to Pacey, would be a kind of “technology culture” without references to which it is impossible to come up with a full (“thick”) description or to explain any of the stages of the development of technology, including that of optical devices. It must be seen similarly to Geertz's local knowledge, which conditions and defines the ways in which the material products of technological processes exist and function. Such practice, which according to Polish etymology may be defined as technology, is a zone of conceptual and communication activity mediating between technological practices and the worldview seen as a relatively permanent set of judgements, beliefs and stands, statements, evaluations and norms, concerning reality, the nature of the world, the meaning of life, and the resultant valuation and assessment that determines the life's stands of human beings and determining the directions of their actions. The principal nature of this practice-technology for Renaissance opticians was determined by the concept of natural magic, discussed earlier in the text.

7. The worldview

Krzysztof Moraczewski, who developed Jerzy Kmita's social and regulatory concept of culture, indicated that anthropologists accepting a certain con-

¹⁴⁹ A. Pacey, *Technology in World Civilization*, The MIT Press, Cambridge, Mass. 1991.

cept of cultural knowledge and the historians of mentality, who reconstruct the content of a given culture, are not limited to the analysis of its binding norms and directives, but also include into its interpretation sets of tasks which articulate cognitive judgements. This is so although they do not directly regulate human actions. It would be absurd, however, to eliminate them from the field of culture as it is easy to prove that expressions of any language not only have objective references but also possess a set of judgements that make up their characteristic semantic assumptions. These assumptions express additional knowledge connected by a community with a given expression. Certain expressions may have the same objective referents for different communities but divergent semantic assumptions. All together they make up the cultural communications competence. Only by linking them together can a full account of the world of the life of a given community be articulated. The assumptions of semantics may have the character of worldview beliefs or value judgements – directly expressing valuations of particular states of affairs.

Moraczewski observes that one of the ways of connecting descriptive judgements with sets of socially shared norms and directives lies in the fact that they exist as judgments that justify a norm (JIN, Polish SUN). For instance, the norm (N) “We should obey divine will” may be justified by the following syllogism: (P) we should do good, and (p) divine will is infinitely good, so (K) we should obey divine will. A judgment justifying a norm, both cognitive and valorising (“divine will is infinitely good”) is here a minor premise of a syllogism. A further justification of this reasoning should necessarily articulate such a fundamental ontological thesis: “God exists.” Of prime importance within the social and regulatory concept of culture is the assumption that individual sets of norms and directives bear directly on concrete human actions, since they determine them in the subjective and rational as well as in the functional and genetic mode.¹⁵⁰ Judgments that justify norms impact them, too, but not directly. Culture scholars, anthropologists and historians are especially interested in the identification and recreation precisely of those sets of norms and directives. However, according to Geertz, comprehending their sense is possible only after they are located in the context of a worldview characteristic of a given culture at a given moment in history. It is reflected in the relevant set of judgments justifying norms. Its recreation often calls

¹⁵⁰ K. Moraczewski, *Cultural Theory and History: Theoretical Issues*, Wyd. Naukowe WNS UAM, Poznan 2014.

for painstaking and time-consuming interpretation efforts but individual cultures develop, however, forms of communication specifically dedicated to its articulation. In Western culture this role is played by such text genres as catechisms, manifestoes, encyclopaedias, school essays, or finally philosophical treatises. This function was addressed in many texts by Renaissance magi-philosophers, as discussed above. The concept of natural magic arising from these texts, based on the fundamental descriptive judgement justifying a norm claiming that nature is identical with the supernatural, was translated into their actions taken within the framework of technological practice. As indicated above, its especially problematic field was optics, at that time dealing with universal and at the same time mysterious phenomena. In the late Renaissance and early Scientific Revolution it was this that presented the area of key negotiations of the worldview concerning the binding cultural image of the world, a fundamental element of any worldview.

The notion of the worldview (*Weltanschauung*) originates in the philosophy of classical German idealism. It derives from the notion of *intellektuelle Anschauung*, translated as “intellectual intuition,” of prime importance in the philosophy of Johann G. Fichte (1762–1814) and Friedrich W. J. Schelling (1775–1854). This notion was reformulated to more or less its present definition by Friedrich D. E. Schleiermacher (1768–1834) and Georg W. F. Hegel (1770–1831), and promoted, just like the *Naturwissenschaften-Geisteswissenschaften* antynomy indicated at the beginning of this text, by the founding father of contemporary culture studies, Wilhelm Ch. L. Dilthey (1833–1911). He used it to describe a *quantum* of beliefs based on the individual’s personal experience, formulated by the individual within systems of significance such as religion, art and philosophy.¹⁵¹ The contemporary term “worldview” is used in common parlance and in general denotes a holistic view of the world, with judgements about the operation of all kinds of objects and phenomena, with special emphasis on the position of humans within it, both as individuals and forming a community. The most crucial role of the worldview is to help its followers to move from thought to action fast, efficiently and successfully. Individual statements which are elements of the worldview are intertwined and make up a dynamic, not necessarily inconsistent, but at a certain level of generalisation coherent

¹⁵¹ W. Dłubacz, *Światopogląd*, in *Powszechna Encyklopedia Filozofii*, vol. 9, Wyd. Polskiego Towarzystwa św. Tomasza z Akwinu, Lublin 2008, p. 346.

whole (the inconsistencies identified within a worldview are perceived as discomforting). A worldview is composed of the following:

- descriptive judgements, or a set of statements describing reality which facilitates interpretation, synthesis, assessment, and a hierarchy of phenomena; fundamental among them is the overriding organising hypothesis,

- value judgements, or a set of evaluations based on a certain value system,

- normative judgements, or a set of rules, principles, directives, and norms. They are closely linked to the image of the world and the recognised value system as emerging from the sum total of descriptive judgements.

An especially important feature of a worldview is its being internalised. This means that it can be unconscious but must be internalised and each judgement taken within it must be treated by the individual as true. Like culture, a worldview is always “someone’s” as each and every human being has some worldview.¹⁵² It is also systematised. A structuration of beliefs takes place within it both thanks to individual reflection and the experience of enculturation. It results in a hierarchy of norms and directives, because of which an individual takes action. The justification of any worldview is determined not so much by objective principles but by the decision-making process of an individual assessing its usefulness/inapplicability for the implementation of a particular action. Because of this, it cannot be considered in terms of truth and falsehood. A worldview seen in this way is the source of stands and justifications for particular actions taken by an individual. At the level of the interpersonal similarities of individual worldviews, communities may be established which will articulate the shared worldviews as ideology. A worldview determines, however, first of all an individual, the personal zone of life and is discussed most often in this aspect.¹⁵³ Interestingly, because it also has a collective aspect, a worldview may be defined as a set of beliefs shared by a community and as being a zone of mediation where negotiations take place between the needs of an individual and the requirements of social life.

To sum up, we may assume that of special importance for the cultural studies research of the history of technology is the consideration of the role of the type of local knowledge and at the same time the zone of culture and

¹⁵² P. Kamela, *O pojęciu światopoglądu*, “Studia Iuridica” XXXIV/1997, pp. 25–32.

¹⁵³ J. Jusiak, *Światopoglądowe uwarunkowania sporu o racjonalność przekonań religijnych*, “Przegląd Religioznawczy” 4(238)/2010, pp. 81–97.

the element of a worldview, i.e. technological practice in the above sense. This allows a thick description and an avoidance of the consequences of making the mistake of accepting Pacey's technological imperative. It is so because individual decision-making processes necessary for the realisation of practices and for suggesting and adopting innovation, which may legitimise change, engage not only purely technical knowledge (as long as we can say of any period that it offered this knowledge the pride of place with respect to other kinds of knowledge), but also sets of norms and directives with their attendant norm-justifying judgements. In this way technology would be a point of mediation between technological practice and culture, allowing at the same time to take into account the factor of an individual decision-making process, which involves the decision-making subject and the worldview, expressed in the case under scrutiny as judgements on the relations between nature, culture, the supernatural, and technology. An illustration of the above entanglements may be the fate of practices carried out by means of optical devices between the Renaissance and the Scientific Revolution. I will furnish two examples of such explanations.

Astronomy historian Jarosław Włodarczyk put forth a hypothesis that Copernicus made a mistake in his heliocentric theory by regarding orbits as circles rather than ellipsoids because of the characteristic distortion of projections from a camera obscura, by means of which he watched solar eclipses.¹⁵⁴ Copernicus would under this approach make a mistake in the calculation of the eclipse stage because of the imperfection of technical observation tools – i.e. the optical device he used¹⁵⁵ – and thus because of the insufficient technological knowledge on the subject. Włodarczyk opposed an earlier explanation of the error, i.e. that it was generated directly by Copernicus' adoption of a descriptive judgement as an element of a specific worldview where the circle was seen as a perfect figure. Copernicus as its follower was to be culturally determined so as not to ascribe the features of imperfection to objects treated by planetary magic and natural magic as sources of the overriding order of the universe. Neither Włodarczyk nor the opponents of the explanation he put forward took into consider-

¹⁵⁴ J. Włodarczyk, *Solar Eclipse Observations in the Time of Copernicus: Tradition or Novelty?*, "Journal for the History of Astronomy" vol. 38, 3/2007, pp. 351–364.

¹⁵⁵ Interestingly, the widespread use by astronomers of the camera obscura is documented only for Kepler, a hundred years after Copernicus. This is connected with the fact indicated above in the text that the dominant style of knowledge distribution in the time of Copernicus did not require a detailed record of the conditions of the experiment.

ation the fact that the above explanations are not mutually exclusive; on the contrary, they strengthen each other and as such may illustrate the role of double conditioning in the decision-making process. Włodarczyk's interesting proposal, however, assumed a polemical nature as it was to present Copernicus as a (proto)scientist who perfectly well separated the practice of science and technology from the field of the worldview as it was construed in the 20th century. The only difference between his approach and the present-day one would be the lack of a "breakthrough" technical discovery used for offsetting the distortion generated by an optical device, in no way determined by the cultural context of the worldview beliefs about the relation between nature and the supernatural, which is based on a semiotic interpretation. Frequent similar attempts of adjusting the practices of the philosophers of nature are – better than the concept of natural magic rooted in the contemporary worldview – a model of a culturally and intellectually isolated innovator who is too big for his time.

Another example of the historical contextualisation of practices with the use of optical devices are the discrepancies in the interpretation of the magical séance held by the legendary Polish sorcerer Twardowski in a chamber of the Warsaw castle for King Sigismund Augustus (1520–1572), known for his interest in the magic practices. This event, relatively well documented in sources, offers a unique insight into the practice of a 16th-century charlatan-optician, an illusionist who deliberately manipulates technology but who keeps the client in a belief, strongly rooted in a worldview, that he contacts the supernatural. The first record of the sorcerer Twardowski and his ties with the Polish court come from his time and from the circles connected with this court: it is made by Łukasz Górnicki, Sigismund Augustus' secretary, in *Dworzanin polski* (1566). The earliest written source about the event is dated as 1573, and its author is the poet Jan Giza. The séance is said to have taken place in 1569 and was meant to conjure the spirit of Queen Barbara Radziwiłłówna, who had died in 1551.¹⁵⁶ Contemporary accounts are few and far between, which as I indicated above are characteristic of the time. We only learn that Twardowski showed to the monarch such a realistic apparition of the late Barbara that the king, in shock, despite being forbidden by the magus, jerked forward in her direction. At this moment the apparition disappeared.

¹⁵⁶ R. Bugaj, *Nauki tajemne w dawnej Polsce...*, p. 198.

The very first interpretations of the accounts of this event displayed differences in worldviews. As Roman Bugaj observes: “Some believed that the séance was conducted with the participation of magical forces and that the necromancer Twardowski had the capacities of a medium. Others tried to prove that Twardowski during the invocation used a magic lantern or a special mirror capable of projecting images. Still others maintained that during the séance the sorcerer took advantage of a woman in special disguise, a resident of Warsaw, Barbara Giżanka, which then played the role of Barbara Radziwiłłówna’s »spirit.«”¹⁵⁷ While accounts of the period do not mention the above mirror as a tool of illusion, it may have been used in two ways at that time: as a component of a typically 16th-century optical device, or as a magic mirror of an older, medieval type. This suspicion became popular in the 19th century when it was generally assumed that Twardowski owned the so-called Węgrów mirror. Until today the object is associated with Barbara’s séance and this conviction has been amply reflected in literature and the visual arts (e.g. a mirror is the focal point of a famous painting by Jan Matejko *Twardowski Conjuring the Spirit of Barbara Before Sigismund Augustus* of 1884). Roman Bugaj countered the latter hypothesis but concurred with the former, proving that the mirror actually came from that time. It is, moreover, clouded in a way implying the purposefulness of this measure and/or a failed manufacture of it by an amateur, which might really imply its magic purpose (e.g. Paracelsus gives a recipe for making such a matt mirror, which each magus should construct by himself for his sole use).¹⁵⁸ During the Renaissance catoptric mirrors of this sort were ascribed incredible powers. E.g. it was believed that they can be used to project letters onto the face of the moon, which was to be a form of secret distance communication (later this unclear phenomenon was explicated as follows: mirror A projects an inscription on mirror B, mirror C reflects also the moon in mirror B, as a result of which the observers were able to see inscriptions on the reflection of the moon rather than on itself). Additional proof for the authenticity of the Węgrów mirror is provided by the inscription on its frame, from a later

¹⁵⁷ In addition, Giżanka met the king without disguise in some unclear circumstances and became the most important royal mistress of the last stage of the king’s life, allegedly gave birth to the king’s child and instigated a scandalous robbery of his property immediately upon his death. The king’s special treatment was allegedly justified by her extraordinary similarity to the late Radziwiłłówna.

¹⁵⁸ R. Bugaj, *Nauki tajemne w dawnej Polsce...*, p. 261.

time, i.e. the first half of the 18th century. The inscription reads: “Luserat hoc speculo magicas Twardovius artes, lusus at iste Dei versus in obsequium est” – “The mirror used by Twardowski to show magic art, now a plaything dedicated to divine service.” This cannot be ascertained today, yet the inscription is a telling reflection of a 17th-century shift in attitudes to optical devices. As was indicated in the preceding sections of this text, it ceased to be portrayed as a dangerous tool of demonic magic and was converted into an object of entertainment (*lusus*).

Countering the hypothesis that this or another mirror was used in Barbara’s séance, Bugaj points out that it took place at night and in that period there were not powerful enough sources of light to facilitate an optical projection.¹⁵⁹ This is debatable since it depended on the device used. This would really have been impossible with the application of a camera obscura, but very probable with the use of a projection from a magic lantern, for instance. The adoption of the latter hypothesis would mean, however, that the queen’s apparition was graphic in nature, which is hard to believe since even the first accounts of the event stressed the shocking realism of the effect. So far, no scholar has observed that Twardowski may have used at that time a relatively simple optical effect known today as Pepper’s ghost which, as indicated above, was first accounted for by Della Porta in *Magia Naturalis* published in 1584, i.e. only 15 years following the date of the alleged séance.

Key for an appropriate effect during a projection from this device is the adherence to appropriate angles of light reflection. Now it becomes clear why Twardowski, “on pain of a threat for the soul,” most probably justifying it by the need to preserve the integrity of the magic circle, forbade his royal client to move from his spot, and when the king did this all the same, nothing happened except that the apparition vanished. Another argument in favour of this hypothesis is that it is suggested that taking part in the séance was a live person in her own body, Barbara Gizanka, and among the optical devices known at that time only the Pepper’s ghost allows a projection of a mirror reflection of live action. This effect resembles somewhat the present-day digital holograms, but by retaining warm and natural hues and an enhanced vividness of the image it offers a still more realistic impression. Since such a projection takes place in the dark, the details are not distinct enough to be able to positively identify the facial

¹⁵⁹ Ibidem, p. 272.

features of a person thus portrayed (she or her stays in an adjacent room). However, what with the similarity of dress, height and build of Gizanka and the late queen, this kind of reflection with an invisible proscenium, source of light and screen of the device must have appeared very credible, especially that such a figure, not changing their position, can still move and the impression of dealing with a live person is even greater.

Accounts from different periods rationalised the *séance* of Barbara, always however taking into account the cultural knowledge of the author. The introduction of a live woman into a dark room was by all means the simplest explanation and called for no technical expertise. Contrary to what it may seem, neither did it call for invoking a materialistic worldview since the 16th century knew very well a figure of a false alchemist, discussed earlier in the text, and such a swindle was no doubt within this figure's reach. Purely magical explanations were put forth relatively rarely, which demonstrates that the worldview including beliefs of the reality of necromantic practices was already petering out. In the 20th century, in turn, an era of triumphant audiovisual media, interpreters of the *séance* with substantial technological knowledge preferred to seek an explanation of this mysterious event in technology. As a result, the accounts of Barbara's *séance* are incontrovertibly mutually exclusive. Their authors had dissimilar resources of technological knowledge and followed colliding worldviews, as a result of which they divergently interpreted this event and edited different accounts about it. Therefore, the examples of the history of hypothesis on this event may be a perfect illustration of the application of a cultural-studies explanation of the relation between technology and a given worldview, the subject matter of this text.

The arrangement of a single practice may help make justifiable inferences about the potential of a setting in motion under given circumstances (via decision-making processes) of a specific sets of norms, directives and judgements justifying norms, drawn from the worldview "pool." If the operator – a 16th-century necromancer in the case of Barbara's *séance* – prepares an illusion behind the scenes, asking for the participation of and making up a person to perform the role of the double, he thereby proves that, at least in this case, he does not believe in the possibility of a desired interference of the supernatural; otherwise he would simply wait for a miracle. If, however, his client is inclined to be persuaded that he sees an actual spirit, he demonstrates that for one thing he has lesser technological knowledge (is unaware of the existence or capabilities of an innovative optical device,

i.e. is no different from most of his contemporaries), and for another thing that this very set of norms and directives with adequate judgements justifying norms, really operates in a given culture. In the case of Barbara's séance it may be reconstructed as follows: the spirits of the dead A) exist and B) they may appear to the living (judgements justifying norms), but such an encounter may prove harmful for the Christian's body and soul (a norm indicating a value such as salvation). In order to incline a spirit to appear safely, we need to employ an expert-necromancer (directive).

* * *

Authors of the pre-history of the audiovisual era face the choice of three historiographic strategies: a description of the history of people (history of inventors), of the history of devices (history of inventions) or the history of practices (history of knowledge). The choice of any of the above precludes, however, the realisation of the model of "thick description;" therefore, some texts, especially encyclopaedic compilations, endeavour to combine these strategies. However, a culture scholar should be interested here first of all in the ways of making alliances between the three objects of study, in particular in the role played by the decision-making process. The difference between an optician-charlatan, optician-magus, optician-prestidigitator, and optician-scientist does not consist, as indicated above, in the technology they use, let alone in the innovations themselves (until the second half of the 19th century there were no radical changes in the construction and operation of optical devices). It consists in the divergence of cultural contexts and their attendant practices and in the related potential of setting in motion sets of norms, directives and judgements justifying norms by the subjects participating in the same culture (Barbara's séance).

To sum up, it can be observed that once initiated, an innovation may be amplified solely when a given culture identifies and articulates a problem which this innovation tried to solve. What is necessary to this end is the conviction that some directive has ceased to apply to the realisation of some norm. To solve this type of problems we may use familiar, perfected, transformed, or totally new technologies connected with culture via practices seen as technologies, which are components of a worldview. The zone of science and technology may be seen by a given culture as isolated, but the practices carried out within it may only be what this culture, which generates the worldview of individuals (thus avoiding the trap of Pacey's

technological imperative), offers. Through technology it is later reflected also in technique, which should serve a given practice as best it can. In this way the cultural-studies interpretation of the history of technology may clarify the interplay of Braudel's periods of "acceleration" and "stagnation." Because of the practices they were used for, projection optical devices usually remained but prototypes, as the revelation of the pattern of their operation to the public would have had a negative impact on the practice and thus would have affected the efficacy of directives encouraging their use. Technological innovation, if it is supposed to generate a technological change on a large scale, must be amplified by a change, or at least a correction, of the worldview. Because of the collective aspect of a worldview, this requires, then, the adoption of a cultural-studies perspective also in reference to historical events.

Chapter II

The problem of human subjectivity as seen by selected disciplines of the humanities and social sciences

To be sure, human destinies are placed in the physical world and suffer the consequence thereof. Even where the intrusion of these external forces seems most brutal, however, their action is weakened or intensified by man and his mind.

Marc Bloch, *The Historian's Craft*, Knopf, New York 1959, p. 194.

Undoubtedly, subjectivity constitutes one of the most crucial notions concerning how humans function in their socio-cultural environment. Nevertheless, there are multiple and various problems related to this notion, even if considered by one discipline only. This diversity of questions is followed by a diversity of solutions that are proposed regarding some specific issues.¹ Some of these differences can be explained in terms of the various scientific interests of their authors, while others are due to the various epistemological perspectives² they represent. An epistemological

¹ See O. Urban, *Podmiotowość jednostki ludzkiej jako przedmiot badań nauk humanistycznych*, Bogucki Wydawnictwo Naukowe, Poznań 2008.

² Briefly speaking, according to Krystyna Zamiara an epistemological perspective refers to an epistemological context of a given discipline, a general way of defining, what is worth studying, as well as the possibility and means of conducting the studies. K. Zamiara, *Dwa typy myślenia w humanistyce o układzie jednostka kultura*, in K. Łastowski, P. Zeidler

perspective means the general set of beliefs held by authors that limits their potential field of interest, indicates questions to be asked, validates some facts as crucial ones and (finally) points out the proper methods of examination. These beliefs may be held both knowingly and unknowingly.

The epistemological perspective presumed by the concepts concerning the notion of human subjectivity, above all, frames the way of describing the relations between a human being and his or her environment that is determined by social, cultural and historical factors.

This paper deals with the matter of human subjectivity by investigating various types of its conceptualization in selected disciplines of the humanities and social sciences and pointing out their modifications with regard to the presumed epistemological perspective. The analysis of the psychological, sociological, anthropological and historical concepts is, therefore, supposed to indicate the assumptions that create their epistemological context as well as their conceptual apparatus.³

What is important, the presented analysis of the scientific disciplines (together with the specific concepts deriving from them) is a highly idealizational one – it refers to their most typical characteristics. This approach is aimed to present and emphasize the specificity of each discipline which renders it possible to conduct an interdisciplinary study. The final part of the paper scrutinizes some potential fields of cooperation between the disciplines mentioned above (in terms of so-called historical psychology as well as the concept of a historical coefficient in sociology).

1. Subjectivity in a psychological sense – as a property of any human being

Subjectivity is commonly regarded as an exclusively human property that does not apply to animals or material objects. This view is broadly accepted

(eds.), *Filozofia wobec nauki, człowieka i społeczeństwa*, Wyd. Naukowe UAM, Poznan 2006.

³ The theoretical background for the paper is constituted by the so-called theoretical history of science proposed by Jerzy Kmita. The theoretical history of science represents a part of his wider theory: the socio-regulative theory of culture. Science is defined here in relation to the other fields of culture and types of social praxis. In these confines the meta-theoretical analysis of science is identified with a culture-oriented study of specific disciplines.

in the social consciousness (especially the western one) and constitutes the classic way of thinking about human beings. In these confines, the basic role is played by some special properties of the subject such as consciousness, self-consciousness, rationality, freedom of choice connected to the responsibility for one's actions as well as the capacity to introduce a change – both in the area of one's personality and in the environment (perceived mostly as a socio-cultural one).

This perspective on the human being – depicting him or her as a conscious and self-conscious subject that acts in an intentional, rational, and creative way – derives from philosophical tradition and as such has been adapted by other disciplines (especially psychology). The philosophical tradition mentioned above refers in the first place to the indeterministic approaches to human life. Another source for the scientific idea of the subject lies in the Christian theology. The first approach perceives subjectivity – with all its properties altogether – as an immanent and infeasible quality of being a human, which is in the state of opposition to the objectification of an individual. The second approach perceives the individual as a part of the world order established by God that is in some ways similar to Him. This similarity involves the questions of free will, human dignity and reason, the special position of humans among other creatures, etc.

The idea of subjectivity has derived from philosophical origins, which involved both a metaphysical and ontological context. When adapted to the scientific studies of individuals and their relations to the socio-cultural environment, it became a purely descriptive notion. It is such a descriptive notion of subjectivity that this paper refers to.

The study of the problems of human subjectivity lies undoubtedly within the field of psychology.⁴ In psychological terms subjectivity is depicted as a property of any human being – in the psychological sense, the “subject” means an individual human being and not a collective one.

⁴ Not all of the psychological concepts provide for the problem of subjectivity, e.g. behaviourism in its ontological layer denies the existence of consciousness and other mental phenomena. The only field of study recognized here is observable behaviour – performed both by humans and animals. The behaviourists did not develop the concept of a human as a creative being. The human behaviour was regarded as a product of social conditioning. The human actions are to be imitative and determined by the reinforcements coming from the internal or external environment. These dependencies were explained in terms of stimulus and reaction.

When it comes to psychology, the individual is always crucial – there are various methods constructed in order to study his or her functioning on different levels (emotional, cognitive, socio-cultural).

Both the area and the methods of conducting studies in psychology can be described as an example of an epistemological perspective called by Krystyna Zamiara a naturalistic-psychologicistic one. This perspective includes a set of epistemological assumptions: methodological psychologism, methodological naturalism and ontological naturalism. It underlies the concepts that emphasize the importance of so-called human nature as contradictory to the factors deriving from the socio-cultural environment. Individuals characterized by their morals, mind and personality, combined with their biological properties, are always a primary foundation of society. The characteristics of their personalities determine the organization of the society and shape the culture. Therefore, the specificity of the socio-cultural reality depends on the dominant characteristics of the individuals – the principles of their individual thinking and acting. Humans are subjects, and social reality is secondary for them.

To be more specific, psychologism entails a view on individuals as bearers of some genetic properties and psychological potentials that are primary, while their participation in culture and social structure is secondary. Both the characteristics of individuals and the properties of socio-cultural institutions are here explained with reference to the psychological laws.

The ontological naturalism is manifested in the psychological concepts by emphasizing the existence of some universal tendencies, or innate dispositions in human nature, which originate from the biological organism. Psychologists tend to presume a nativist point of view, which describes the way in which humans function as a result of the biological evolution of a species. The properties of subjectivity are perceived as well as naturally determined components of human nature, e.g. Abraham H. Maslow wrote: “creativity, spontaneity, selfhood, authenticity, caring for others, being able to love, yearning for truth are embryonic belonging to his species-membership just as much as are his arms and legs and brain and eyes.”⁵ Similarly, Erik H. Erikson sustains that all the stages of human development are connected to the processes that takes place on the level of the biological organism. According to him, each human organism contains the patterns of all future characteristics that are to be actualized

⁵ A. H. Maslow, *Towards a psychology of being*, VNR, New York 1962, pp. 160–161.

in a given time frame. An organism is construed here rather as an active source and base for personal development than just a passive part of the background. What is more, the proper development of the organism is necessary for the proper development of the human personality. All the phenomena that are of a socio-cultural nature are simultaneously determined (at least partly) by natural regularities. Culture is here a specific extension of the biological instruments for the human being adapting to their environment – it is a derivative of the world of nature. The prime example of the cultural extension of natural human properties is language. The socio-cultural environment does not differ from the natural one in any crucial way – it is rather its component. The abovementioned concept of the socio-cultural institution by Erikson is constructed in this spirit. Erikson presents the ensuing stages of human development as well as the corresponding virtues gained by the individual after a successful completing of each stage. These stages are covered by specific institutions: “Each successive stage and crisis has a special relation to one of the basic elements of society, and this for the simple reason that the human life cycle and man’s institutions have evolved together.”⁶ The relation between an individual and social institutions works in such a way that the developing human feeds the institution with his or her energy, making them last. In return, he or she is getting reinforcement as well as confirmation of their consecutive achievements in development, e.g. a basic trust is institutionally established on the sphere of religion, while autonomy is founded on the principles of law and public order.⁷ Erikson calls this property of social institutions maintenance of the human world. In this framework, society tends to get its shape, which would respond to the consecutive nature of the stages of individual development.⁸ Further, Erikson expresses the idea of society being modelled by individual development in another way. According to him, each social environment should be construed as a chain of environments suitable for every stage of human development. This is such an environment as is expected by an individual as well as adapted to his or her perceptive capabilities. One may draw a conclusion that society is created by a set of components which depend on the cognitive capacities

⁶ E. H. Erikson, *Childhood and society*, W.W. Norton & Company, New York 1963, p. 250.

⁷ Therefore, society can be described as a set of institutionalized forms of some individual properties.

⁸ E. H. Erikson, *Childhood...*, p. 270.

of the individual. A human does not adapt to the culture – society and culture are rather shaped to be friendly for individuals. Another quotation supporting this conclusion defines culture as the “persistent endeavor of the older and more adult egos to join in the organizational effort of providing an integrated series of average expectable environments for the young egos.”⁹ In this depiction, culture is identified with *a set of persons* that share a property of adapting to the individual capability to develop.

Methodological individualism considers socio-cultural phenomena as determined by individual phenomena and therefore explained in terms of the individual phenomena. Social reality is here construed as a result of individual actions. The characteristics of these acting individuals determine the characteristics of their culture and social structure – they shape the conditions they live in – and the opposite dependency is not taken into account. In extreme cases this view can be expressed as follows: “There are hardly any evidences of the existence of society, are there? I’m afraid that it’s only a hypostasis that makes it easier to ignore individual humans.”¹⁰

As an example of such a way of thinking one can indicate the concept by Gordon W. Allport, a father figure for humanistic psychology. His field of interest is constituted by the human individual combined with a specific organization of his or her personality as well as the consistency and coherence of his or her actions. Instead of a typical review of the properties of the human species, he conducts qualitative case studies that he calls morphogenic ones (it is his term for the idiographic approach to studying human behaviour). In his opinion, morphogenic analysis provides better results than the so-called dimensional studies (meaning nomothetic ones). Allport has worked out an epistemological approach called heuristic realism. It presumes that every individual is characterized by a real neuro-psychical organization, which is to be recognized by a psychologist.

The morphogenic approach is implicated by the main assumption of his concepts, which states that each adult is a unique individual and that this fact should not be underestimated by improper research methods. The morphogenic approach renders it possible to account for such human properties as the complexity and uniqueness of the personality, the coherence of the tendencies marking one’s character, and the significance

⁹ E. H. Erikson, *Identity and Life Cycle*, W.W. Norton & Company, New York – London 1979, p. 163.

¹⁰ K. Obuchowski, *Od przedmiotu do podmiotu*, Wyd. Uczelniane Akademii Bydgoskiej, Bydgoszcz 2000, p. 75.

of aware indicators of behaviour and rational factors, such as the main motives of one's actions. These assumptions construe a notion of human subjectivity described by individuality, consciousness and rationality.

There is a strong influence of methodological individualism in this concept. Allport does not recognize the need for describing the nature of the socio-cultural environment surrounding an individual. In fact, he rather takes into consideration the role of culture in the process of individual development – he views it as its “major condition.”¹¹ The notion of culture has, nevertheless, no wider representation in the concept, and is considered as a minor factor of human behaviour. Neither does he recognize characteristics of personality as the result of social interaction. Allport perceives them as biological potentialities imprinted in human nature and gradually developed due to one's own activity. Social influence can be approved, or disapproved of by an individual, or be neutral for him or her. What an individual approves of is the only aspect relevant for a psychologist, because it becomes part of one's personality: “The personality theorist should be so well trained in social science that he can view the behavior of an individual as fitting any system of interaction; that is, he should be able to cast this behavior properly in culture where it occurs, in its situational context [...]. At the same time he should not lose sight of the fact that there is an internal and subjective patterning of all these contextual acts.”¹²

Psychological studies present a perspective on the human individual as completely independent of the socio-cultural and historical context. The relation between the individual and culture is here defined in terms of psychological and natural regularities and should not be reduced to macro-cultural dependencies.

The reconstruction of the notion of subjectivity in the psychological sense brings to the foreground such aspects of the subject as the active development of one's (psycho-biological) potentialities, the reshaping of some elements of the external environment according to one's system of values, self-improvement, the capacity to make a free choice or autonomous decision concerning one's actions, setting of goals and pursuing them in a chosen way or satisfying the commitment to human relationships.

¹¹ G. W. Allport, *Becoming. Basic Considerations for a Psychology of Personality*, Yale University Press, New Haven – London 1955, p. 82.

¹² S. Hall, G. Lindzey, *Theories of personality*, Wiley, New York 1970, pp. 294–295.

Psychologists do not usually define subjectivity in terms of the relation between an individual and socio-cultural conditions. This independence of the subject's actions from the historical and cultural reality is perfectly expressed by the typical notion of self-actualization (especially within humanistic psychology). It implies that in the process of their development an individual is self-sufficient: the development is determined in an internal way and requires hardly any external stimuli. According to Maslow: "Man demonstrates *in his own nature* a pressure toward fuller and fuller Being, more and more perfect actualization of his humanness in exactly the same naturalistic sense that an acorn may be said to be "pressing toward" being an oak tree [...]"¹³ Normal development involves the actualization of internal human nature, comes from one's inside and should not be shaped by external factors or in relation to something external. Personality develops thus according to genetically programmed stages. The environment, at best, can only help to actualize the potentialities of biological human nature. It is neither a source of human properties nor a frame of reference for human actions.

No one could say that psychology does not account for the input of the external, socio-cultural environment in the process of forming an individual at all. Nevertheless, it presents this input in a rather simple way, as a secondary background to psychobiological determinants. It lacks any specific activity and seems to be just a set of objects shaped or used by an individual with no special significance but to provide opportunities to an individual to take some actions.¹⁴

2. Subjectivity in a socio-cultural sense – as a derivative of the properties of social structure and culture

The concepts created by sociologists and anthropologists of culture present a different perspective. They bring to the foreground questions about social structure and culture, while the problems of human personality and its dependencies are here in the background. Clear concepts of personality are lacking and the notion of human subjectivity is therefore not usually

¹³ A. H. Maslow, *Towards a psychology...*, p. 160.

¹⁴ K. Hurrelmann, *Social structure and personality development. The individual as a productive processor of reality*, Cambridge University Press, Cambridge 1988.

described *expressis verbis* – rather as a kind of implicit construction that can be reconstructed based on the statements concerning other issues.

The difference regarding the psychological and the socio-cultural approaches to subjectivity is connected to historical differences between psychology and culture studies. With regard to subjectivity, the psychological approach emphasizes both organic and mental conditions and tends to construct an analysis that focuses on the relation between the internal reality and the development of personality. On the other hand, sociology and anthropology of culture make a focal point about the social conditions concerning the development of personality and study the relations between the way humans function and external reality.

Since Émile Durkheim, sociologists have rather focused on the one-sided influence of social structure on the actions taken by individuals. Social facts that are both objective and external with regard to individuals are here perceived as solid, well organized model relations that operate between elements of the social structure and impose constraints on individual actions. In fact, individuals cannot think or act on their own, fleeing the social influence.

The process of development equips individuals with knowledge concerning social expectations. These expectations become internalized and reshaped into motives and goals of actions recognized as one's own. Normative socio-cultural systems are so deeply embedded in the individual's psyche that those who adapt to them are not conscious of this fact. Social facts are perceived by them as natural, not external, or even innate.

As Durkheim himself put it: "It is therefore in the nature of society itself that we must seek the explanation of social life. We can conceive that, since it transcends infinitely the individual both in time and space, it is capable of imposing upon him the ways of acting and thinking that it has consecrated by its authority."¹⁵ The acquired social knowledge is common and solid, which makes it a proper guide for individual actions. If for some reasons the social order falls apart, what is called by Durkheim an anomy, individuals lose their orientation in the social space and their life becomes so disorganized that, in short, this state can result in rising suicide rates.

In fact, such a vision of socio-cultural reality does not take into consideration human individuality or autonomy with regard to social pressure

¹⁵ É. Durkheim, *The Rules of Sociological Methods*, The Free Press, New York 1982, p. 128.

or any type of influence on social processes. Therefore, it neglects all the properties that are traditionally recognized as belonging to subjectivity. Individual autonomy, which is expressed by the free realization of one's needs, goals and aspirations, is here perceived as marginal in comparison to the impact of existing social structures. The matter of personality creates the background for the analysis of social structure, culture or historical determinants, typically understood as a set of norms, rules, principles and cultural patterns.

According to Zamiara, this type of approach is to be described in terms of a so-called anti-individualistic – anti-psychologistic epistemological perspective, which constitutes a representation of the world significantly different from the naturalistic-psychologistic perspective. The difference refers to the human condition, the status of culture and society, and the relation between the individual and culture/society.¹⁶

This is constituted by the following epistemological assumptions: methodological anti-psychologism, methodological anti-individualism (collectivism), methodological anti-naturalism. In general, the studies founded on this perspective have developed within the humanities and social sciences after the so-called antipositivistic turning point that has rendered it possible to account for diverse socio-cultural phenomena without referring to psychological knowledge.

To be more specific, according to methodological individualism (at least some), properties of socio-cultural structures cannot be reduced to the properties of individuals and the relations between them. This approach is represented by Robert K. Merton's concept, which is typically focused on the macro-social level. Individuals are here perceived as elements of the social system, whose properties derive from this system. Society produces individual personalities in the process of socialization by means of institutions such as family, education or the workplace. Socialization seems to be an extremely one-sided process – individuals passively conform to the social influence without reshaping it. They both

¹⁶ Apart from these two epistemological perspectives Zamiara has distinguished a third one called the individualistic – anti-psychologistic perspective (K. Zamiara, *Dwa typy myślenia w humanistyce...*, p. 126). This perspective is underlain by the assumptions of methodological individualism and anti-psychologism. The concepts based on this perspective with regard to an individual neither account for psychobiological properties, nor refer to the idea of human nature. Instead, they focus on the description of external circumstances, which are typically represented by the socio-cultural environment.

consciously learn and acquire patterns of social behaviour in an unconscious way and internalize them as a part of personality. The institutional and normative social order defines not only individual properties but also the relations between individuals. These relations should be functional with regard to the whole society. Individual activity is here reduced to the choice between alternatives defined by social structure.¹⁷ Not even this choice is free to make – it is governed by social rewards in the form of reinforcements that give individuals a sense of fulfillment. Individuals are therefore goal-oriented, but not intentional in terms of their having a conscious choice of goal followed by pursuing it by means subjectively recognized as proper ones.

With respect to social change, Merton does not account for the role of individuals in the process – changes are to be considered a domain of structure that is capable of a peculiar “self-transformation.”¹⁸ Instead, he considers the influence of actions that are organized and commonly taken by members of society. According to Merton, each new generation of individuals that enters the social structures finds new ways of modifying the existing structure – by responding adequately to the existing social conditions.¹⁹ Social change is introduced by linked and combined social choices made by groups of individuals, usually by means that are socially acceptable. A subject is therefore understood here rather as a collective one rather than as an individual, while at the same time collective actions are influenced by social determinants as well.

The presumed anti-psychologicistic approach results in a belief that social phenomena constitute a primary reality that determines all the other phenomena, including those of the individual. Society transfers, or more commonly – forces – given requirements concerning actions that respond to the existing order and contribute to the permanence of the social system, while the psychobiological properties of individuals are here neglected. Then a personality is a derivative of the socio-cultural norms. Merton takes into consideration merely the one-sided and coercive influence of social institutions on individuals that embrace all the levels of one’s existence. According to him: “the structure constrains individuals

¹⁷ Author’s *Preface* to the Polish Edition of *Social theory and social structure*: R. K. Merton, *Teoria socjologiczna i struktura społeczna*, PWN, Warsaw 1982, p. 16.

¹⁸ *Ibidem*, p. 18.

¹⁹ *Ibidem*.

variously situated within it to develop cultural emphases, social behavior patterns and psychological bents.”²⁰

Further, methodological anti-naturalism as a foundation of studies rejects not only the psychological but also the biological explanation of human behaviour. For example, Florian Znaniecki puts it this way: “The idea of innate nature understood as organically determined dispositions and capacities is of no significance within [the] sociology of personality, as there are no innate social dispositions or capacities at all.”²¹

Explaining human behaviour without referring to biological (genetic) determinism creates a view of subjectivity where it is defined by cultural or social patterns at the historically given time. Individuals are formed by culture and linked by various relations, which makes them a community. However, these bonds are not created in a random way. It is culture that at the historically and socially defined moment regulates the entire social life. The creating, lasting and breakdown of these bonds are ruled by culture, e.g. shaped as functional dependencies.

In sociological and anthropological concepts – contrary to the psychological approach, which views personality as the property of an individual – personality is determined by the relation between an individual and the external world.

Besides, the sociological and anthropological perspective on subjectivity is based on an assumption that subjectivity can be ascribed not only to a human individual, but also – or especially – to social groups. Then a subject is constituted by groups of individuals (construed in an anti-individualistic manner), whose organized actions can influence the shape of the social structure (which is represented e.g. by Merton’s concept).

These assumptions produce concepts that in the first place analyze the properties of social structure, and which define the properties of individuals and the modes of their behaviour. Individuals are here deprived of autonomy or influence on society. The society is to be a crucial subject of all the human processes worth studying, as well as of evolution and history. The culture is here presumed to be primary with regard to nature – while the sphere of the social is primary with regard to the sphere of the organic. In the relations between an individual and culture, it is

²⁰ R. K. Merton, *Social theory and social structure*, The Free Press, New York – London 1968, p. 177.

²¹ F. Znaniecki, *Ludzie terażniejsi a cywilizacja przyszłości*, Wyd. Naukowe PWN, Warsaw 2001, p. 102.

the culture takes the role of the subject, demanding a certain behaviour responding to the culturally defined order and contributing to its durability. Both individually and collectively, people realize – usually unconsciously – the social programme. Psychobiological aspects of individuals are here neglected, as well as their individuality and autonomy, in order to focus on the internal balance of the social system. The possibility of the development of an autonomous individual whose personality could differ from socially established patterns is not taken into account either. What is more, it seems that the existence of such systems of values that would render it possible for an individual to act in contradiction to those patterns is also precluded. In the psychological, existential and moral sense, individuals are here determined by the society.

All of this does not mean that socio-cultural thinking does not account for human subjectivity at all. There are numerous concepts that construe the relation between social structure and individuals not as a one-sided determination. Individuals are situated in the influential socio-cultural context and at the same time these concepts mark off some areas, within which, to some extent, individuals can exploit their independence of the social structure and culture as well as pursue their goals in compliance with their individual preferences or even, to some extent, have an impact on modifying the social structure and culture, or at least choose between socially determined alternative courses of action. Sociologists and anthropologists describe systems that are restrictive with regard to individuals to varying degrees. The less restrictive ones render it possible to constitute individual subjectivity, at least to some extent. The subjectivity is then construed as enabled or produced by the culture and social structure.

When analyzing the notion of subjectivity as it is constructed by sociology or the anthropology of culture, one could wonder, if individuals realizing all the tasks assigned by society and culture does not necessarily entail limiting their subjectivity or even its invalidation. In other words, can the individuals, who are permanently restricted by the socio-cultural impact, really make their own choices or are they in fact just realizing plans designed for them by society?

The response could be constructed as follows: the sociological concepts placing an individual in the influential socio-cultural context establish also such spheres within which individuals are able to realize goals in compliance with their own wishes. This depiction is founded by a less radical version of methodological individualism. On this supposition

individuals can act as subjects and at the same time fulfil socially or culturally designed patterns of behaviour. It is definitely noteworthy that sociologists and anthropologists describe systems that are restrictive to varying degrees. The less restrictive ones render it possible to constitute individual subjectivity. In this frame of reference, individuals are able, at least partly, to exercise control over their own actions and contribute to changing the socio-cultural reality. Societies are no longer seen as definitely formed with respect to merely one rule or principle, but rather seem to variably approve of the individual subjectivity of its members. Then these concepts can be construed as accounting for some peculiar *determination-gaps* in culture, e.g. in Merton's concept the opportunity for individual subjectivity appears when the state of social disintegration called anomie or disequilibrium occurs. Then the subjective, individual factors, that normally remain unnoticed, are brought to the foreground. Some of the ways of dealing with such an unstable social structure may become the new alternatives with respect to the hitherto ruling patterns.

Subjectivity in sociology and the anthropology of culture can therefore be expressed by the relative independence of the individual behaviour of structural determinants as well as the possibility of taking individual actions, at least in some spheres of culture and social structure. It can also be expressed by allowing individuals influence on the shape of the social structure and culture. This type of perspective is represented by the concept of Anthony Giddens (the notion of social praxis that renders it possible for individuals not only to reproduce social structure, but also to produce it).

3. Subjectivity in historical studies. Is a human an object or a subject of the historical process?

The idea of human subjectivity in the frames of historical studies should be considered with respect to obvious differences between the fields of interests of history and, above all, psychology. Psychological explanations are supposed to be universal and context-independent – valid regardless of historical circumstances, changing conditions, motivations or the ways of pursuing goals chosen by the individual participants of socio-cultural life.

On the other hand, the responsiveness to historical change of a study area that accounts for modifying cultural standards and determining

human actions by social context, which is neglected by psychology, constitutes the crucial characteristics of history.

A psychologistic approach to historical studies was typical of so-called classical historiography. These authors attempted to describe various manifestations of individual socio-cultural activity as a limited set of psycho-biological factors that could be used to interpret such activity regardless of the historical moment at which it takes place. This perspective was based on an unstated assumption that is typical of psychologists and postulates the existence of an invariable human nature.

This frame of reference was derived by classical historiographers from positivist philosophy, especially as represented by John Stuart Mill. According to him: "The actions and feelings of human beings in the social state, are, no doubt, entirely governed by psychological and ethological laws: whatever influence any cause exercises upon the social phenomena, it exercises through those laws."²²

In this depiction history, just like naturalistic psychology, was to be nomothetic science in search of laws, while these (historical) laws would refer to both the so-called invariables of human nature and natural laws that influence human actions in order to derive constant properties of the influence. *History of Civilization in England* by Henry Thomas Buckle sets an example of this approach. In short, the author explains the stages of social development by reference to psychological and natural causes. Buckle wrote: "Indeed, when we consider the incessant contact between man and the external world, it is certain that there must be an intimate connexion between human actions and physical laws."²³ The task of such historical studies was to search for facts that would unambiguously explain human life phenomena as well as to construct generalizations referring to the principles of the development of civilization. What is important, there is a lack of interest in the historically and culturally changing context of these phenomena.

The so-called antipositivistic turning point in the humanities (that already has been mentioned in respect of the shift between the naturalistic-psychologistic epistemological perspective and the anti-individualistic – anti-psychologistic epistemological perspective) that had been taking

²² J. S. Mill, *A System of Logic, Ratiocinative and Inductive, Being a Connected View of The Principles of Evidence, and the Methods of Scientific Investigation*, Harper & Brothers, New York 1882, p. 620.

²³ H. T. Buckle, *History of civilization in England*, vol. 1, Longman, Green, Longman, Roberts & Green, London 1864, pp. 31–32.

place since the second half of the 19th century, had affected history as well. The humanities (along with history) and the social sciences have been separated from natural science and have left aside positivist methods. At the same time they became self-efficient disciplines. The crucial difference between natural and social science started to be connected with the notion of values that are to be insignificant for the first type of science and at the same time essential for the second one.

The specificity of the humanities and social sciences was described by Heinrich Rickert: “There is a science that is to describe its objects in terms of their individual uniqueness. They are not construed as an exemplum of some species or a case that falls within a law, but as a unique and unrepeatable object. This depiction is defined by cultural value ascribed to the object, which is not just a spatiotemporal being but rather a good, characterized by sense or meaning. Such objects carry values. Humanities and social science are designed to study it.”²⁴

Therefore, for historically-oriented culture studies the matter of values was of crucial importance because it marked off their field of interest as well as rendered it possible to construe it. The past cannot be studied as any other observable object, but it can be understood on the basis of historical materials that are a vehicle for values. In other words, values constitute facts that should be studied by history.

The facts are individual, which means that the constituting values are unrepeatable. Therefore, they cannot be interpreted in a psychological or positivist manner. There are no general laws concerning their characteristics.²⁵

²⁴ A. Przyłębski, *W poszukiwaniu królestwa filozofii. Z dziejów neokantyzmu badeńskiego*, IF UAM, Poznań 1993, p. 46.

²⁵ According to Kmita, this property of historical fact was described by Max Weber in a more precise way. He described human actions as so-called cultural-historical facts. The actions, as well as their results, are determined in a subjective-rational way. This means that they can be explained by the following scheme of the ideal type: 1. The beliefs shared among a community in a given time span orientate individual actions to achieve certain values as well as point out the ways of achieving it; 2. Taking the action leads to creating an object. The Weberian scheme of ideal type actions is expressed by Kmita in terms of subjective-rational actions: 1. Orientating an action to the realization of a given value; 2. Knowledge concerning actions that result in realising the value. Both steps are combined together by the so-called rationality assumption that states that an acting subject takes his or her actions in respect of his or her knowledge. These actions, therefore, are not here perceived as the results of timeless psychologistic dependencies but rather as

The emergence of humanities out of natural science resulted in the dynamic development of knowledge concerning human beings and their world by developing numerous branches of the humanities, including history. This shift entailed a reorganization of the whole discipline. The notion of history had been widened and the general change resulted in the emergence of the Annales School – a group of French historiographers active from the end of the 19th century onward, represented by Marc Bloch or Lucien Febvre, and later on by, among others, Fernand Braudel.

These scholars shared a suspicious approach to that type of history that refers to psychological dependencies, and tends to focus on individual human or individual events.²⁶ They replaced this event-oriented history with studying repeatable phenomena within the frames of the so-called *longue durée* – long-term processes.²⁷ They attempted to identify some kind of lasting cultural or social elements within longer time spans, or historical entities that played a role of the determinants of individual worldviews as well as shaped the economy, influenced religious activities or produced customs.

The Annales School postulates a total history that is to refer to interdisciplinary studies of parts or entireties of social, economical, religious or customs' systems. These studies are situated in the frames of *longue durée*, which results in referring to such phenomena taken from the systems that both undergo the slightest changes and determine human actions in the strongest way. In order to achieve this, the notion of structure is here involved. According to Braudel, the existence of the deep structures of socio-cultural reality had been familiar to former historians as well, but

determined in a subjective-rational way. They are the results of beliefs respected by a subject that can be derived from the given socio-historical context. The knowledge about the reasons for actions requires knowledge about the values shared within groups of people that live in the historically defined time. In other words, proper explanations requires knowledge concerning the actions that were regarded as both acceptable and effective at a given time. E.g. G. Banaszak, J. Kmita, *Społeczno-regulacyjna koncepcja kultury*, Wyd. Instytutu Kultury, Warsaw 1991, pp. 23–28.

²⁶ This kind of event-oriented history focused on the influence exercised on history by great men in respect of superficially adapted psychological statements. One might say that ascribing to men such extraordinary power of influencing reality and describing them as unconstrained subjects of historical processes resulted in a significant narrowing of the discipline. E.g. see M. Dymkowski, *Wprowadzenie do psychologii historycznej*, GWP, Gdansk 2003, p. 16.

²⁷ E.g. F. Braudel, *On history*, University of Chicago Press, Chicago 1982, p. 31.

they had been treating it just as a kind of insignificant background for the individual leaders. The new history brought these background elements to the foreground and studies them in the first place.

For Braudel, the long-lasting economical and social processes that take place on the level of structure are crucial factors in the shaping and development of social reality. However, from the individual point of view, these processes are indeed not observable and seem to be invariable elements of reality. Individuals see them as lasting, coercive, or even obvious and natural (like Durkheim's social facts). They resemble natural processes, which change so slowly that they are hardly noticeable. The structures constitute a stable foundation of human existence on all of its levels. They determine the socio-cultural range of possibilities concerning ways of thinking and acting – both for individuals and social groups. As Braudel puts it: “But all of them provide both support and hindrance. As hindrances they stand as limits (‘envelopes,’ in the mathematical sense) beyond which man and his experiences cannot go.”²⁸ This statement can provide some guidelines useful for reconstructing the notion of human subjectivity that is presumed within this concept.

An important methodological postulate for Annales School recommended taking into account the output of other social sciences and branches of the humanities. In this way Annales' works had incorporated Durkheim's sociology, ideas of functionalism, elements of Lévi-Strauss' structuralism, or Marxism. All of these inspirations can be characterized as emphasizing social dominance over individuals. Putting history in the wide perspective of numerous determinants and ways of interpretation resulted in reaching to (historical) geography, demography, religious studies, literary studies, etc. This kind of multi-level approach is represented by *Feudal Society* by Marc Bloch.

Being certain that the abovementioned postulates were right, Braudel projected a so-called global history, while focusing on the history of Europe and the world during the Modern Age – between the 15th and 18th centuries. A work *La Méditerranée: l'espace et l'histoire*²⁹ written in cooperation with Filippo Coarelli and Maurice Aymard, presents the history of the Mediterranean region with many layers and aspects, and regards the

²⁸ Ibidem.

²⁹ The book hasn't been translated into English. Further reference to the Polish edition: F. Braudel, F. Coarelli, M. Aymard, *Morze Śródziemne: region i jego dzieje*, Wyd. Morskie, Gdansk 1982 [translator's note].

relations between nature, the economy, politics, social institutions and individual lives. History, the aforementioned work postulated, is not divided into the histories of single nations or civilizations – it is rather constructed as a holistic perspective reaching far beyond these particular views. This perspective is to combine numerous facts, regions and time spans as well as to show the lasting identity (even for ages) of historical phenomena (determined by middle- and long-term processes), a common rhythm of social life, its structure as well as the dynamics of short-term, unstable change. The goal is to confront the past with the present by emphasizing how the present of the Mediterranean is embedded in its past through the lasting elements of its identity. According to Wrzosek, the lasting identity renders it possible for Braudel to state that the present Mediterranean civilization can be identified with the one from two thousand years ago.³⁰

The authors account for climate conditions, terrain, soil fertility, natural resources as well as – or rather, above all – ponder upon linking these factors with cultural ones in order to determine human behaviour. Filippo Coarelli puts it this way: “Geographical factors, that are significant for historians, are meaningful only when juxtaposed with factors of different nature – economical, social, cultural ones.”³¹ A given combination of geographical and climate conditions could certainly limit some socio-cultural phenomena, or even make them impossible, by limiting the options of the revelation of some parts of the social consciousness. It is presumed here that the frames of development of following generations (including the present ones) are limited by the level of development of social reality represented by the preceding stages. The description of many aspects is to realize the presumed programme of combining various disciplines in one coherent attempt to represent human life and the world. This is the only way to embrace “a thousand things at a time” – which is the way of “being” of the Mediterranean region.³²

What kind of depiction of human subjectivity could be derived from the Braudelian way of thinking? The response to the question requires reconstructing one’s view on the human individual as it is construed by a holistic history embracing huge spaces and very long time spans. Is

³⁰ W. Wrzosek, *Historia – Kultura – Metafora. Powstanie nieklasycznej historiografii*, FNP Leopoldinum, Wrocław 1995, p. 92.

³¹ F. Braudel, F. Coarelli, M. Aymard, *Morze Śródziemne...*, p. 80.

³² *Ibidem*, p. 5.

a person living in the Mediterranean region, at least to some extent, an active subject?

In principle, the idea of the individual created by Braudel seems to comply with the anti-individualistic – anti-psychologistic epistemological perspective. In other words, Braudel's concept interprets the relations between the individual and the external world in a collective way. The presumed anti-psychologism denies psychology as a foundation for historical explanation and theory. In the ontological aspect it distinguishes the phenomena studied by the humanities and social sciences from the psychological phenomena. Therefore, it postulates different methods of conducting these studies, as the psychological ones are of no use for the humanities and social sciences. Methodological anti-individualism states that the properties of (socio-cultural) structures cannot be reduced to the properties of individuals and the relations between them.

The perspective on civilization created by Braudel entails a perspective on the individual that is mostly in compliance with these assumptions. He takes a stance of determinism (social, cultural, historical, natural) and refuses to grant an individual any significant role in determining the shape of historical processes. The individual is involved in global dependencies and functions within a system as a social and historical being. This being conforms to the historical, socio-cultural and natural reality.

The idea of *longue durée* is here of great significance. It stands for a temporary perspective that embraces the social, cultural, religious and civilization changes. In this framework individuals seem to be passive participants of a collective life, involved in the long-term processes, structures, systems and conditions that depend on the geographical properties of a region, the type of community, the economy, city, civilization and so forth. The whole complex system does not evolve in a way that would be recognizable for individuals, so their subjectivity could hardly be granted.

This vision of the world leaves no place for individual agents. Even if individuals create something noteworthy, it is rather an unconscious and random process that makes them influence but the co-determinants of history, and it goes only as far as designated by the coercive historical conditions. Individuals can replicate these conditions, but they do not produce them. The sphere of the thinkable or the doable is limited by the long-term processes and the structural features of reality. They set boundaries that exclude numerous trains of thought or achievements. Whatever actions an individual takes, they are always limited by these historical constraints.

The same dependency concerns groups of individuals. The boundaries designate a given number of admissible forms of human behaviour and, at the same time, set the area of people's freedom or subjugation. If any action exceeds the designated options, then its significance or effects are invalidated by the coercive social rules, structural processes and functional dependencies.³³

The historical process is not here created by human individuals. It is rather realized by them. The role of individuals seems to be random – most of them conform to the historical conditions and contribute to its undisturbed development. It seems that Braudel does not refer to actual humans, but rather to typical categories of humans, who drain the soil, change uncultivated terrain into arable grounds, prepare food out of harvested crops, etc. as well as those who are negligent with regard to irrigation or drainage, thin the forests out and turn ploughed grounds back into marshland and so on. These categories of people act collectively and influence long time spans, being at the same time unconscious of this or of the long-term meaning of their actions. According to Braudel: to get to know who they were means to get to know the global historical and natural system they were involved in.

At the same time the Braudelian individual remains a hostage – or as Braudel puts it: a prisoner – of the climate, type of vegetation, fauna and cultivation as well as of the ways of thinking, beliefs, and the economy. Humans depend on the balance between these two systems and between them and themselves. They are afraid of upsetting this balance, which could result in a serious disturbance of the system, on which their life is founded.³⁴ Historians are aware of both the existence and significance of all these constraints. Does it allow them to neglect the role of an individual in history? According to Braudel the answer is “no”: “I would conclude with the paradox that the true man of action is he who can measure most nearly the constraints upon him, who chooses to remain within them and even to take advantage of the weight of the inevitable, exerting his own pressure in the same direction. All efforts against the prevailing tide of history which is not always obvious are doomed to failure.”³⁵

³³ Compare to the notion of functional-genetic determinacy by J. Kmita. E.g. G. Ba-naszak, J. Kmita, *Spoleczno-regulacyjna koncepcja...*, pp. 37–41.

³⁴ F. Braudel, *On history*, p. 31.

³⁵ F. Braudel, *The Mediterranean and the Mediterranean World in the Age of Philip II*, vol. II, University of California Press, London 1995, p. 1243.

Subjectivity relates to activity, mobility and changeability, whereas Braudel's project of history is focused on stability, durability and a constancy of the world and humans. This depiction reveals the activity of collective subjects that combines actions and the choices of groups of individuals taken within given structural conditions and which influence long-term historical processes. Individual preferences hardly impact these processes at all. It seems that the crucial reason for this should not be recognized as the alleged "anti-subjective" attitude held by Braudel, but rather as a type of scientific goal he pursued, which was to grasp the nature of *longue durée*. His point of view on the Mediterranean world determined his concept in the first place.

Inspiration coming from the Annales School, connected to their way of understanding and creating history, led to the emerging of another branch of non-classical historiography – that is historical anthropology.³⁶ As the Annales School studies relation between history and geography, the economy, and structuralistic and functionalistic sociology, the historical anthropology has turned to the anthropology of culture, ethnology, history of art, and psychology. This new branch of history has disregarded collective, structuralistic or Marxist visions of the past. The change of perspective on history has been followed by the change of perspective on the individual.

According to Wojciech Wrzosek, between 1950 and 1970 the view of history had been dominated by modernism identified with the Annales School, represented above all by Fernand Braudel. After 1970 the anthro-

³⁶ Another interesting concept deriving from the same source is the so-called microhistory represented by, among others, Robert Darnton, Carlo Ginzburg, and Emmanuel Le Roy Ladurie. This thought has been inspired by symbolic anthropology by Clifford Geertz – especially by his depiction of culture, its studying and interpreting in terms of thick description (e.g. C. Geertz, *Thick Description: Toward an Interpretive Theory of Culture*, in *The Interpretation of Cultures: Selected Essays*, Basic Books, New York 1973). In general, a historian that involves this kind of depiction of culture resembles an anthropologist – his main task is to present culture "from an indigent point of view." Microhistory presumes thorough studies of the past including its all minor aspects. It postulates describing relatively short, limited time spans referring to ordinary people's perspective – people who had no actual opportunity to influence e.g. political history. The microhistorian gets to know their names, their words and stories. Apart from general knowledge concerning a certain time span, microhistory includes primary sources: original materials like e.g. the inquisition's documents or the legal records of interrogation. A story based on these materials is to be as close to everyday life as possible.

polological perspective on historiography had emerged, which entailed appreciation and reinterpreting of the thought of the classic authors from *Annales*: Marc Bloch and Lucien Febvre.³⁷

Historical anthropology accounts for historical material in an anthropological way, which means, in general, that studies of life focus on grasping some regularities, exposing significant elements and analyzing the relation between the elements (e.g. ways of thinking) and the entire human reality. Such reality is here perceived as a context created by humans that influences their actions. Historical anthropologists have been studying the Middle Ages and the early Modern Age. The studies are based on the assumption that these times are as distant for contemporary people as some non-European society, which constitutes the traditional field of interest for anthropology.

Anthropological history refers to a crucial notion of *mentalité*. Studying *mentalité* as well as the whole of historical anthropology is supposed to be modifiable and interdisciplinary. These authors aim at a flexible, wide-open approach to history. Various methods and theoretical inspirations are here not only possible but also desired.

Georges Duby and Robert Mandrou comprehend *mentalité* as a system of perceptions, images and ideas that are combined in different ways among different social groups or social strata that create a society. In each case this constitutes a foundation for human representations of the world and their place in it and, consequently, they define human actions. In this depiction, the social relations between people are determined both by economical or political factors and those connected to people's ideas or perceptions of the world.³⁸ The study of the interaction between the human mind and socio-cultural structures in historical aspects is here of the essence. The authors scrutinize the customs, shared values and morals of social groups in the past as elements that are determined both by society and a psychologically mediated basis of social life.

³⁷ What's important about Marc Bloch, he depicts the feudal society that he analyzes as an entity – as a complex system constructed from both material and spiritual phenomena as well as those of an economical, social, religious, ritual or ideological nature. On the other hand, Lucien Febvre's concept brings ideas that are interesting for historical anthropology above all when he describes cultural or historical boundaries that determine the limits of social consciousness and points out the frames of human thought and behaviour.

³⁸ W. Wrzosek, *Historia – Kultura – Metafora...*, p. 131.

Studies of *mentalité* result in a synthesis of methods and objects belonging to many various branches of knowledge, which leads to constituting a new field for history – culture. However, this idea of historiography keeps its distance from the traditional notion of culture, which is opposed to the psychological or anthropological approaches. *Mentalité* refers to the entire culture, with its material and spiritual parts. At the same time pre-logical and emotional aspects of culture are brought to the foreground.

According to Aaron Gurevich, this kind of *mentalité* and its role in the society of a given epoch could be compared to the air³⁹ that is breathed in by all members of society – this is a globality, an invisible environment that involves everyone. Therefore, understanding human ways of thinking and acting means knowing the ingredients of the air. Nevertheless, these ingredients depend somehow on the humans that live within their influence.

What is important for this paper, anthropological and historical studies of *mentalité* reject a dehumanized vision of history – the one that is situated outside or above the human world. They refuse describing historical epochs in terms of structuralism or functionalism and deny the holistic or collectivist approaches to society that deprive its description of elements of subjectivity. Instead, they focus on the psychological dimensions of humans as well as the spiritual level of social life – even if it is implicit or unconscious, it still plays a role of a rationale for the socio-cultural actions and events.

Although these studies put the collective level above the individual one, they presume that the objective determinants that shape the historical process can cause significant events as far as they influence humans, their emotions and consciousness – by becoming part of their life, they evoke actions and are followed by given consequences. The actors of the historical scene are alive and conscious, they share ideas and passions, pursue their goals – they cannot be described as “inert and inept – the playthings of forces larger than themselves”⁴⁰ or passive individuals, completely involved in the long-term processes. It is not an individual that is enacting the historical process – it is a participant of culture as well as its author. This perspective seems to account for the subjects of history and not just its objects.

³⁹ Ibidem, p. 135.

⁴⁰ A. Giddens, *New Rules of Sociological Method: A Positive Critique of the Interpretative Sociology*, Stanford University Press, Stanford 1993, p. 5.

Further analyses focus on the matter of subjectivity according to Gurevich works, especially his *Individual in the history of (medieval) Europe*.⁴¹ At the beginning, Gurevich states as follows: “The problem of an individual is an important question for contemporary historical knowledge that is oriented towards anthropology and studies humans as social creatures – historically specific and changing. Historians have been successfully studying societies and its economical, social and political determinants. An individual – an atom of social structure – still remains a sealed book.”⁴²

In these words Gurevich brings attention to some limitations that characterize the history of *mentalité*. These studies gather enormous materials concerning human activities, achievements, and everyday life in order to discover various aspects of the representation of the world, which was familiar and important to the people in the past. The historians of *mentalité* attempt to reconstruct the meanings of past trains of thought. Nevertheless, *mentalité* is to express a so-called collective psychology, that is, some elements common for members of small and big social groups – *de facto* the extra-individual level of individual consciousness. The historians cannot account for a specific individual consciousness – the structure of individualized and unique elements of people’s mental representation of the world.

At the same time, according to Gurevich, human individuality constitutes a fundamental historical problem (especially significant as it regards socio-cultural changes occurring in the Western world in the past decades⁴³). Gurevich has been studying factors that have transformed fragmented singular societies of the European continent into the contem-

⁴¹ The book hasn’t been translated into English. Further reference to the Polish edition: A. Guriewicz, *Jednostka w dziejach Europy (średniowiecze)*, Marabut – Volumen, Gdansk – Warszawa 2002.

⁴² Ibidem, p. 8.

⁴³ According to Gurevich, the problem of the individuality of a human being does not concern the past ages only. As the author puts it: “I am a Russian historian and as the author of this book I need to say that the topic of an individual and individuality has become more and more up-to-date and meaningful in my country. The totalitarian regime has enslaved individuals as well as put their initiative down within all the fields of economical, political and cultural life. The word ‘individualist’ not only has stood for an insult – being accused of individualism, that is of a freedom of revealing human capabilities, skills and interests, could also entail repression – e.g. towards artists. The problem of the individual has become a crucial issue of current debate concerning rescuing our society, its rebirth and creating a new spiritual climate.” A. Guriewicz, *Jednostka w dziejach Europy...*, p. 8.

porary European community. In the final analysis – the question is asked whether the achievements within material culture as well as shifts within social relations, the development of science and technology and so on, determined by a specific structure of individuals' personality typical of this area? This relates especially to those individuals that having overcome their own limits due to e.g. birth or social stratum, started to perceive their own individuality, spread original beliefs, and develop unique skills. On this account, the question concerns subjectivity.

Gurevich's answer is not a simple one. Examining the sources of these shifts does not take Gurevich back to "eventual history" or "the history of great men." He is not interested in studying completely extraordinary personalities. His view raises a difficult question of presenting the people of the Middle Ages (artists, clergymen, intellectuals) in the context of their own universe of thought as well as the social relations of the epoch without losing sight of their individuality, their uniqueness. The method is based on the assumption that individuality is shaped by given socio-historical conditions – e.g. religion, the economy, morals, or laws that create the general climate, mark out boundaries, for the expressions of individuality. As Gurevich puts it: "Study of the perceptual and conceptual cultural inventory should help us to understand its nature and, consequently, to clarify the conditions under which the human personality has been shaped in this or that period."⁴⁴

Depending on the properties of the socio-cultural environment, the individuals acquire specific properties themselves. They are individuals that are involved in the socio-historical conditions.⁴⁵ They can be original, but inevitably they are influenced by their culture and take the worldviews, systems of values and mindsets of their society, or social groups that they belong to, for their own. They can think in a creative way, but not in isolation from the ideas they share with other individuals and groups. They

⁴⁴ A. J. Gurevich, *Categories of Medieval Culture*, Routledge & Kegan Paul, London – Boston – Melbourne – Henley 1985, p. 27.

⁴⁵ Gurevich distinguishes the human individual from "individuum." The individual concerns the process of getting conscious of one's own worthiness, and confirmation of the self, while individuum is related to the process of getting conscious of one's distinctiveness. The processes of the emerging of an individual and his or her individualization are combined together. The first one – regarding European history – seems to precede the second one. Nevertheless, this distinction is rather purely analytical and the criteria are hardly clear.

are persistently testing their own boundaries, they constitute civilizations, build cities, wage wars, and enter into alliances. They co-create reality, but only with regard to the building material they can use and the projects they can realize concerning the coercive historical conditions.

The closer we examine a social group one belongs to, the more visible the individualization. It is impossible to refer to the process of individualization regardless of the context of given socio-cultural transformations. According to Gurevich, the context is defined by the abovementioned shifts within Western Europe in the Middle Ages.

For these reasons Gurevich's concept is situated far away from the highly abstract category of the *individual in the Middle Ages*. Instead, his studies take into consideration various social figures, roles and characters like monks, knights, townsmen, artists, merchants, saints or outcasts. In compliance with Jacques Le Goff's views, he assumes that the abstract figure of *the man of the Middle Ages* could be in this manner filled up with more specific contents.

Gurevich's studies come between global history and "great man history" – they could be described in terms of an epistemological perspective called by Ireneusz Krzemiński a perspective of primary relations.⁴⁶ This perspective reaches out from the dominance of a collective or individual way of thinking and renders it possible to present such a vision of human activity that both belongs to the socio-cultural world and – in the given circumstances – can be of a subjective nature.

Describing Gurevich's ideas in terms of this perspective seems to be correct because of, among others, the methods he prefers. He aims at grasping the balance of individual and social factors. He is studying human beings: their language, customs, religion, moral principles and art as well as all the mental background that makes human action meaningful. Gurevich attempts to reconstruct an objective, historical context of human actions by means of its subjective (according to Wrzosek: socially subjective rather than individually subjective⁴⁷) aspects. As Wrzosek puts it: "Getting to know an individual or an anonymous group of individuals renders it possible to get to know the universal, the extra-individual, as well as the coercive in the frames of a society or an epoch. It relates to all kinds of rules of cultural interpretation of the world, the rules of taking actions.

⁴⁶ I. Krzemiński, *Co się dzieje między ludźmi?*, UW, Warsaw 1992, pp. 10–13.

⁴⁷ W. Wrzosek, *Historia – Kultura – Metafora...*, p. 139.

On that account the goal is to get to know a human together with his or her knowledge about the world and system of values. This knowledge and this system of values accompanies all the actions that are taken by him or her.⁴⁸ In this perspective, an individual, society, culture, or historical process – constitute equivalent elements that constantly interact with each other, which results in mutual transformation. Individuals participate in culture by adapting their preferences to the general conditions. At the same time they contribute to transforming cultural phenomena in compliance with their own needs. In this depiction, individuals can function in the world only together with society and culture, whereas society and culture are unthinkable without independently thinking and acting individuals.

Firstly, the perspective is based on assumptions that construe society as a historically and culturally defined entity with properties different from the properties of its members – that cannot be reduced to the sum of its members. Secondly, this entity and its mechanisms influence individuals in significant and various ways. Thirdly, individual members of society influence at least some spheres of the socio-cultural life. Lastly, the social life of individuals is impacted by two types of factors: those connected with the social system and those independent of it.⁴⁹

This view takes into consideration the influence of the socio-cultural environment on individuals, but the influence is not of a merely mechanical nature. Under these circumstances individuals could, at least in part, control their actions, which could cause noticeable changes in the surrounding world.

4. Subjectivity as an interdisciplinary problem

Historical anthropology represents one of the many interesting examples of mutual inspirations between the disciplines analyzed in the paper. The disciplines tend to merge and create so-called blurred genres⁵⁰ – studying the notion of individual's subjectivity as well.

⁴⁸ Ibidem, p. 131.

⁴⁹ K. Zamiara, *Czy opozycja: indywidualizm – kolektywizm wymaga przewyżczenia?*, "Człowiek i Społeczeństwo" 1998, vol. XVI, p. 124.

⁵⁰ Clifford Geertz, the author of the notion of the blurred genres, stated that temporarily clear divisions and strict boundaries between disciplines among humanities and social sciences are not possible to sustain – unless on the institutional level. The situation

The first result of the blurring genres I am to discuss is so-called historical psychology, which could be derived from Wilhelm Dilthey's thought. In the 19th century Dilthey had been studying the human involvement in historical processes – he postulated examining the relation between types of psychological processes and the historical transformation of cultures. The point was to not to explain human ways of thinking in a causal way, but to understand them in the context of changing socio-cultural conditions.⁵¹

Many researchers think of historical psychology as a kind of addition to the psychology of the contemporary man who considers the internal sources of behaviour as well as the external ones – when it comes to the people in the past.⁵² The static approach (to personality, identity, human activity) is no longer involved. Instead, the historical influence of various socio-cultural conditions is taken into consideration. According to others, historical psychology does not comply with so-called traditional psychology, but is definitely opposed with regard to the latter. It argues against the naturalistically oriented concepts that situate the sources of both psychological and, consequently, social processes in the biological organism.⁵³ As regards the methodology of historical psychology, according to Piotr Pacewicz the discipline does not conform to the specific methodological requirements of modern psychology. Because of the nature of its materials, it is not possible to test its theses experimentally, so it is limited to posing hypotheses concerning various psychological processes and their course in the past.⁵⁴

of merging disciplines that can have various inspirations and involve various legacies is, according to Geertz, an important stimulus of development. C. Geertz, *Local Knowledge. Further Essays in Interpretative Anthropology*, Basic Books, New York 2000, pp. 19–35.

⁵¹ See e.g. J. Szacki, *History of Sociological Thought*, Aldwych Press, London 1979, pp. 321–329.

⁵² I agree with Maciej Dymkowski, according to whom historians, while studying human history, regardless of their theoretical or methodological commitments, tend to show an attitude of a psychologist. This does not necessarily mean that they refer to scientific psychology – rather they remain in the frame of reference of “common sense psychology.” This attitude is typical of those historical attempts that reach beyond registering historical phenomena or processes and try to understand them. M. Dymkowski, *Wprowadzenie do psychologii...*, p. 11.

⁵³ See e.g. Z. Spindel, *Podmiotowość człowieka a psychologia historyczna*, Wyd. UŚ, Katowice 1994, p. 65.

⁵⁴ P. Pacewicz, *Podstawowe złudzenia psychologów historycznych*, „Studia Psychologiczne” 23/1985, pp. 29–40.

Historical psychology's task is to provide knowledge concerning psychological variables that – according to its proponents – significantly co-determined the behaviour of individuals within a given historical reality. Human behaviour is here determined by various external factors like social structure, culture, the economy, politics or even climate. At the same time there are psychological determinants that shape human behaviour from the inside – from the individual level. In other words, historical psychology examines the individual ways of the realization of the historical process or the individual influence on it. The individuals are here perceived as beings characterized by various psycho-biological and psycho-social properties.

Similar assumptions consider also the so-called psychology of cultural participation, postulated by Krystyna Zamiara.⁵⁵ According to her, these assumptions render it possible to redefine the relation between psychology and other disciplines: social science and the humanities are to study objective aspects of the cultural participation of individuals – study “the culture itself, its general forms and properties and mechanisms of development,”⁵⁶ whereas psychology would provide studies of the subjective aspects of the matter. Its task would be to investigate the psychological mechanisms that rule the process of the individual learning of participation in culture, establishing the course of participating in culture in an empirical reality – both under ordinary and extraordinary circumstances, as well as the psychological determinants of the participation. In other words, it would study the realizations of the process of participation in culture by individuals characterized by various psychobiological and psychosocial properties⁵⁷ – under the important assumption that the fundamental environment for most or even all of the human actions is constituted by social, historical and cultural factors.⁵⁸

⁵⁵ The project is supposed to overcome the psychologistic epistemological perspective that is typical of the psychological approach to individual participation in culture. On the other hand, it aims at overcoming the dominance of the anti-psychologistic and anti-individualistic approaches among culture studies as well. See e.g. K. Zamiara, *Czy istnieje szansa korzystania z teorii psychologicznej w badaniach nad kulturą?*, in T. Kostyrko (ed.), *Teoria kultury a badania nad zjawiskami artystycznymi*, Centralny Ośrodek Metodyki Upowszechniania Kultury, Warsaw 1983, pp. 171–190.

⁵⁶ K. Zamiara, *Epistemologiczny kontekst psychologii partycypacji kulturowej*, in K. Zamiara, M. Golka (eds.), *Sztuka i estetyzacja. Studia teoretyczne*, Wyd. Fundacji Humaniora, Poznań 1999, p. 146.

⁵⁷ *Ibidem*.

⁵⁸ Both the answer to these and similar questions and the foundation of the developed depiction of participation in culture – according to Zamiara – are possible if and only if

What is important, historical psychology significantly differs from so-called psychohistory – a specific discipline developed betwixt and between history and psychology, mostly in the 1960s in the USA. The authors like Lloyd deMause or Robert Jay Lifton referred to psychodynamically oriented psychology, especially to Freud's psychoanalysis. They used his legacy to study historical reality, mostly with regard to the development of personality and great men's activity – they created their so-called psychodynamic biographies. Historical human actions and social processes were here depicted as the signs of motivation of a biological origin. The naturalistic-psychologistic motivation described on the level of individual personality was supposed to explain the course of historical processes. The individuals were perceived in a psychoanalytic way – as determined by biological and physiological drives of the *id* and social dictates of the *super ego*. The basic reasons for human actions were situated in the unconscious mind, beyond individual control.

These assumptions had generated concepts that presumed a model of human personality highly contradictory to the idea of the rational man who acts in compliance with his or her knowledge concerning goals and measures. As Jerzy Topolski puts it: "This position is a death threat for history since it treats humans as puppets moved by some fatalist powers lying in them [...] and thereby depriving them of examining (explaining) the significance of all of the branches of history that allow us to reconstruct the shaping of knowledge, ideology, mentality, thus a history of consciousness (i.e. spiritual culture) as well as of the products of conscious actions."⁵⁹

This standpoint is therefore of an anti-subject nature. However, it is necessary to stipulate that Freud's concept of the *ego* was a starting point for considering its role in the construction of personality. Over time its autonomy has been viewed as wider and wider, more and more independent of the *ego* and *super ego*, and finally as one of the pillars of the subjective existence of an individual. For example, for E. H. Erikson the functions of the *ego* are above all creative and not defensive or adaptive. In Erikson's concept of individual personality, the conscious component of the human psyche is brought to the foreground and located in the

psychology can put aside the epistemic assumptions of ontological naturalism, methodological individualism and psychologism, especially in their radical versions.

⁵⁹ J. Topolski, *Świat bez historii*, Wyd. Poznańskie, Poznan 1998, p. 126.

context of specific historical and cultural influences (as distinct from the universalized influence depicted by radical psychoanalysis).⁶⁰

Erikson's project of psycho-historical studies is supposed to analyze one's life story by means of the proper interpretation of its description and accessible materials. The proper interpretation requires not only the knowledge concerning an individual, but also historical knowledge concerning his or her society, and the shape of the given historical and cultural processes. The psycho-historical method by Erikson combined historical case studies – typical of psychoanalysis – together with studying the cultural and historical conditions of the life of the individuals – under the assumption that the relations between the individual and these conditions were mutual. These projects resulted in the so-called psychobiographies of Martin Luther and Gandhi.⁶¹

Psychohistory has been widely criticized, mostly among the historians themselves. The critique relates to its fundamental assumptions and argues that the reference to Freudian ideas groundlessly situates the determinants of human actions within the inaccessible physiological drives of their unconsciousness (which ascribes the most important role to the so-called *libido*, i.e. widely understood sexual drive). At the same time, reference to this kind of motivation is typically connected with the assumption of the existence of a historically invariable human nature. According to Topolski, founding historical explanations on psychoanalysis – considered by him a classic example of ahistorical thinking – which is typical of psychohistory, is a fallacy.⁶²

Let us get back to the historical psychology and its approach to the problem of subjectivity. Zbigniew Spindel is one of the authors who are interested in individual subjectivity in the historical perspective. His position is noteworthy. He considers the historical psychology a collection of some theoretical and methodological assumptions that point out a specific

⁶⁰ In order to make the presentation of Erikson's concept from the first part of the paper complete, one must add that he perceives culture as a source of common ideas of good and evil that contain some patterns of social moral values in form of so-called social models. They create a specified frame of reference for individuals.

⁶¹ E.g. E. H. Erikson, *Young man Luther: a study in psychoanalysis and history*, W.W. Norton & Company, New York – London 1993.

⁶² See M. Dymkowski, *Wprowadzenie do psychologii...*, p. 19. What is important, unconscious motivations – under certain conditions – can regulate human actions, e.g. those connected to emotions. On the other hand, the real consequences of these actions usually do not meet one's expectations and their influence on history is also interesting.

complex of problems and ways of perceiving them.⁶³ Subjectivity is here regarded as a necessary condition of the historical development, as well as a property that is influenced by the development.

According to Spendel, there is a necessary connection between the historical thinking about humans and accepting a so-called subjective metatheoretical perspective.⁶⁴ The perspective, despite the differences within specific theoretical ideas, refers to the notion of subjectivity in a way that makes it an explanatory category. As Spendel puts it: "In my opinion, each piece of history needs to depict human beings as, even if only potentially, of a subjective character or to assume this character implicitly."⁶⁵

However, according to Spendel, it seems that historical psychology avoids studying human subjectivity. On the other hand, the so-called psychology of subjectivity disregards historical aspects of the matter. The ahistorism of the psychology of subjectivity cannot be surprising – why would this branch of psychology take into consideration history, whereas there is a general lack of historical perspective in the frames of traditional psychology. What is more, viewing the subjectivity in the context of its historical modifications could lead to an unwelcome conclusion – that being human can mean something different in relation to the historical and cultural conditions of life.⁶⁶ Contemporarily (especially with respect to the Western world), while the subjectivity seems to be the most universal and primary property of each individual, the idea that this category can change depending on history and culture could be difficult to accept.

The lack of interest in subjectivity that is noticeable within historical psychology is, according to Spendel, worth looking into and explaining. In his opinion, this absence is rather apparent. The category of subjectivity is, in fact, included, but rather in an implicit way. Subjectivity is usually accounted for as a permanent, invariable and irreducible characteristic of the individual. In this way this depiction can be described as ahistorical. What is more, according to Spendel, this depiction is necessary so the historical psychology could study it as a relatively stable frame of reference and then account for any changes. As Spendel puts it: "It seems that the sense of the notion of variability needs to be in relation to some kind of

⁶³ Z. Spendel, *Podmiotowość człowieka...*, p. 7.

⁶⁴ *Ibidem*, p. 9.

⁶⁵ *Ibidem*.

⁶⁶ *Ibidem*, p. 67.

permanence as a necessary addition. Probably no other way of conceptualizing the change is even imaginable.”⁶⁷

According to Spendel, viewing subjectivity as the necessary characteristic of the human individual is the most common idea within the historical psychology. Spendel himself admits to being an opponent of this depiction. In his opinion, in order to gain valuable results, one should understand subjectivity not as characteristic of the individual, but rather as characteristic of the relation between the individual and the external world, especially in its socio-cultural aspects.⁶⁸ Only then could the subjectivity be part of the historical category in the very sense of being historical – this approach accounts for variability and the diachronic perspective. This depiction situates the subjectivity – as a capacity to establish relations with the external world in a conscious, creative and active way – in historically and socio-culturally defined conditions or at certain stage of the historical development of the forms of the individual’s participation in culture.⁶⁹

In this manner Spendel puts some constraints upon naming a human being a subject. The human being becomes a subject only then, when between him or her and the world a specific relation of subjectivity has been established. Therefore, contrary to the traditional psychology, belonging to the human species does not make anyone automatically a subject. This opportunity appears on some historically described levels of the relation with one’s environment.⁷⁰ This idea seems to be close to the sociological approach to subjectivity (as characterized above).

Contrary to the traditional psychology, classical sociology did not avoid investigating the historical aspects of its field, even though various sociological branches and schools have accounted for these aspects to different extents.⁷¹

The relation between sociology and history has been described in an interesting way by Piotr Sztompka. He does not recognize so-called historical sociology as a return to the sociological roots (as it is commonly believed sociology has derived from history). On the contrary, he treats contemporary sociology as a critical reaction to traditional ways of using history present in the works of sociologists in the 19th century. The history

⁶⁷ Ibidem, p. 63.

⁶⁸ Ibidem, p. 38.

⁶⁹ Ibidem.

⁷⁰ Ibidem, p. 39.

⁷¹ Ibidem, p. 49.

of Europe, according to Sztompka, had provided a natural field of study for a young discipline of sociology. The authors like August Comte, Herbert Spencer, Ferdinand Tönnies or Émile Durkheim in his early works, have explained the processes of the transformation of the traditional society into a modern one (industrialization, urbanization, capital accumulation, etc.). However, in these studies they did not involve truly historical methods, which offer the reconstruction of specific events and their generalization in order to formulate historical laws. In fact, their methods were contrary to the historical ones – they constructed the universal historical laws (covering and explaining as many historical facts as possible) *a priori* – adding to it at most a few pieces of random historical evidence to support it. So the laws were not derived from history, but rather put upon it. The other assumption was that history can be perceived mechanically – as a field with a determined direction, independent of human actions. As Sztompka puts it: “instead of bringing sociology closer to history, it represented in fact the early form of ahistorism. We may call it, a little paradoxically, a ‘historiosophical ahistorism.’”⁷²

Besides the dominant ahistorical tendency, there were also a few examples of truly historical sociology in the 19th century. They were typically focused on the selected time span and did not formulate too wide generalizations. They were based on well-documented historical events and – what is here more important – they accounted for individual actions with regard to the change in the society. This approach had denied fatalism and established the individuals or the groups of individuals as a real subject of history. According to Sztompka, this actual early historism was represented above all by Max Weber’s works.⁷³ In short, involving the historical perspective had resulted in putting the mechanical historical laws aside. Instead, Weber had pondered on the kind of historical interpretation that recognizes the strategic role of subjects in reproducing social structure. It is especially Weber’s legacy, according to Sztompka, that has contributed to the recent rebirth of historical sociology.

The sociology at the end of the 19th century was in need of brand new concepts concerning the process of social and historical change. This need had been met by two new theoretical options – the so-called historical sociology and the so-called theory of subjectivity. Based on different prem-

⁷² P. Sztompka, *The sociology of social change*, Blackwell, Oxford 1994, p. 204.

⁷³ Apart from this, Sztompka points out in this context the early works of Karl Marx and Alexis de Tocqueville. Ibidem.

ises and referring to different traditions, these two branches of sociology met in creating the new vision of society as a dynamic process, through which the individuals create and reproduce the social context of their lives.

Historical sociology is usually depicted as a branch of sociology (separate theoretical and methodological orientation) that is interested mainly in the cultural aspects of (Western) society in the past.⁷⁴ According to Sztompka, historical sociology “takes the opposition of continuity and change as its core problem but by solving it arrives sooner or later at a quite sophisticated notion of agency.”⁷⁵

The proponents were represented by Norbert Elias, Phillip Abrams, Charles Tilly or Christopher Loyd. All of them accept a certain set of ontological assumptions that are fundamental for historical sociology and could be described as the “historical coefficient of social reality.”⁷⁶ The most important premises of this coefficient include the following beliefs: the social world is a dynamic process, with a liquid network of relations that contains conflicts and contradictions as well as order and cooperation – the society happens rather than exists; it consists of events rather than objects; time is an internal, necessary dimension of the society, and its immanent factor – the cause, results and course of action depend on the specific point in time; social change is an outcome of numerous processes (parallel and crossing, convergent and divergent, concordant and conflicted) – each phase of the process is a cumulated result of the former’s phases and the beginning of future change; the causative factor of social change is constituted by subjects – the individuals or groups and their actions; they create society not in a random way but according to the given structural conditions that are inherited from the past and that are set or changed for the future generations; therefore there is a dialectic of action and structure, within which the actions are partly determined by the former structures, whereas the later structures are created by the former actions. According to Sztompka: “in the image of social reality as endowed with the ‘historical coefficient’, the old dichotomies of continuity and change, statics and dynamics, synchrony and diachrony are finally overcome.”⁷⁷ By making the historical coefficient a foundation of

⁷⁴ As it was mentioned above, sociology and history were merging in the Annales School as well.

⁷⁵ P. Sztompka, *The sociology...*, p. 217.

⁷⁶ E.g. P. Sztompka, *Sojologia. Analiza społeczeństwa*, Znak, Cracow 2002, p. 527.

⁷⁷ P. Sztompka, *The sociology...*, p. 211.

the study of social reality, the historical process can be perceived as the result of the actions taken by active subjects, the result of both creative and reproductive procedures realized by means of structural resources shaped by former generations.

The dependency between historical thinking and subject-oriented thinking is noticeable e.g. in the concept by N. Elias. The author maintains that all the contemporary forms of society derive directly from the former ones. At the same time the contemporary forms constitute a specific base for the future social forms. These processes of social development are started by the individuals, who are variously related to each other. As Elias puts it: "It is simple enough: plans and actions the emotional and rational impulses of individual people, constantly interweave in a friendly or hostile way. This basic tissue resulting from many single plans and actions of men can give rise to changes and patterns that no individual person has planned or created. From this interdependence of people arises an order *sui generis*, an order more compelling and stronger than the will and reason of the individual people composing it. It is this order of interweaving human impulses and strivings, this social order, which determines the course of historical change; it underlies the civilizing process."⁷⁸ The humans that form groups are therefore seen here as a subject of historical change. Even though the shape and scope of the change process is simultaneously completely dependent on specific socio-cultural conditions, still – an infinite diversity among humans and their divergent plans, unexpected moves and differentiated knowledge or individual emotions do not leave a place for automatism or inevitability.

The so-called theory of subjectivity in sociology is represented by, among others, Alain Touraine, Anthony Giddens, Margaret Archer and Piotr Sztompka. The image of the society they depict is called the agential coefficient of social reality. The most important assumptions of the theory postulate the following: society as an invariable entity is unthinkable, the society is established by the processes, a continuous sequence of changes, and the variability consists in self-transformation and derives from intra-social sources; the final trigger of change is the causative force of individuals and social collectives reflected by their actions; nothing happens automatically or out of historical necessity in the society; everything

⁷⁸ N. Elias, *The Civilizing Process: Sociogenetic and Psychogenetic Investigations*, Blackwell, Oxford 2000, p. 365.

is a product made by humans; the countless number and variety of subjects makes the direction, goals and speed of change a controversy that is debated about and fought for; the result is the outcome of multiple forces; each action happens in the context of the existing structures that at the same time are shaped by this action; both structures and subjects are here twofold – the structures because of determining and being determined, and the subjects because of shaping and being shaped; the permanent harmonizing of structures and subjects takes place in time, which makes the social process a sequence of the processes of individual creativity and structural determinism.

Quoting Sztompka: “The historical coefficient and the agential coefficient prove to be two complementary or even coextensive characterizations of social reality. The legacy of the theory of the agency converges with the inheritance of historical sociology in outlining the contours of the new vision of the social world.”⁷⁹ The attempt of synthesis that would combine together the historical coefficient and the agential coefficient in one coherent entity has been taken within contemporary sociology by introducing the notion of social becoming.

The theory of social becoming is founded on the two ontological theses mentioned above.⁸⁰ According to the first one, social life is not constituted by a single individual or extra-individual systems, but by a specific third level: a field merging the individual and the structural. This thesis entails the fact that the individual is unthinkable outside some kind of social context. Similarly, it is impossible to imagine a structure that would function without active, creative and reproducing human beings. In fact, the society is the individuals in their mutual relations. Each sociological fact is constituted by the inseparable combination of individual and structural factors. The other ontological thesis states that the common field of the individual and the structural is dynamic and could not be grasped in a static or invariable form. However, the movement means partly some kind of continuity, at least as regards the confines of the changes, since keeping identity of the society requires continuity of some of its dimensions or aspects. Then each sociological fact seems to combine historical continuity and instability, permanence and variability – at the same time. Society understood as the field of the individual and the structural is char-

⁷⁹ P. Sztompka, *The sociology...*, p. 212.

⁸⁰ P. Sztompka, *Socjologia...*, p. 530.

acterized by the subjectivity as seen as an eventual capacity of the society to self-transform. This capacity does not belong to the individuals, social groups or even wider communities. It is not a property of the structures either. The subjectivity is an outcome of the dispositions, capacities, motivations, knowledge, and ambitions of the members of the society and the structural conditions they live within. Moreover, it is gradable – it can occur more or less intensified within the societies that are passive or stagnant or the societies that take up the effort of self-transformation and self-creation.⁸¹

In this depiction, historical processes consist in the permanent reproducing and creating subjectivity of society through its actualization during the every-day socio-historical praxis.⁸² There is a mutual dependency – the praxis at its actual stage is shaping the future form of subjectivity (is reproducing, modifying or even creating its characteristics as well as reshaping and enriching individual personalities), whereas the shaped subjectivity becomes a source for the future praxis. The process operates on the mutual interaction between the actually realised elements – the real social praxis – and the potentially possible (future scope of subjectivity). This distinction of two stages of the historical process is often purely analytical. In reality, the processes of shaping subjectivity by the actual praxis and its feedback are simultaneous.

The so-called theory of structuration by A. Giddens provides an example of such an approach. Especially the idea of the duality of structure is here important.⁸³ A dual structure is a structure that cannot be conceptualized as having a coercive impact upon individuals. It is rather depicted as a background of actions (especially the creative ones), that later on becomes a result. This structure is studied in terms of its structuration. Studying structuration, according to Giddens, means searching for an explanation of the fact that the structure is constituted by human actions and *vice versa*, or how the actions are shaped and influenced by the structure. The theory of structuration is one of the attempts aiming at a coherent depiction of human action and structure. Giddens' approach focuses on the subjective actions of individuals.

⁸¹ Ibidem, p. 530.

⁸² The socio-historical praxis is here understood (following K. Marx, among others) as a collective praxis located at the point of contact of individual actions taken by the members of society and structural conditions that accompany them.

⁸³ E.g. A. Giddens, *New Rules of Sociological Method...*, p. 165.

The concept accounts for the subjects that are reflexive and rational and act towards their goals. They reshape their social world and create history in this way. All this does not necessarily mean that acting individuals are absolutely conscious of their skills and capabilities. At the same time, not all of the forms of social life can be construed as the intended results of their actions. Like other proponents of the sociological theory of subjectivity (and historical sociology), Giddens believes that the scope of subjectivity of individuals is limited. Undoubtedly, individuals create society, but they do so as situated in socio-historical conditions they did not choose.⁸⁴

5. Attempt of conclusion

The author of this paper believes that the shape of theoretic concepts – in this case the concepts of human subjectivity – belonging to various disciplines – depends on the images of reality (initially highly intuitive or common) that are taken for granted in the concepts. So the concepts are always founded on some preceding judgements – more or less conscious, verbalized – concerning the nature of the world and the humans. These judgements influence the contours of the field of interest, the questions asked, the areas of searching for meaningful facts or ways of gathering data.

This image of the world that precedes the scientific investigation is called by Ireneusz Krzemiński an inaccurate draft of the area,⁸⁵ that during the studies is gradually filled with detailed content. The draft depends on the viewpoint of scholars converging with their scientific interests. The frame of reference could be directed towards individuals – then the society seems to be an insignificant background as well as the result of the ways of thinking and acting performed by the individuals. It can also be directed towards the society, the culture, the historical process – it may be so that the individual is situated partly or totally out of the scholar's sight.

These images of the world or drafts of the area can be described in terms of some general ways of thinking about the socio-cultural reality (e.g. the individualistic or collectivistic approach). More specifically, they can be presented in the form of epistemological perspectives.⁸⁶

⁸⁴ Ibidem, p. 165.

⁸⁵ I. Krzemiński, *Co się dzieje...*, pp. 197–199.

⁸⁶ See e.g. ibidem; K. Zamiara, *Dwa typy myślenia w humanistyce...*

When it comes to the subjectivity in the psychological sense, these depictions, in general, comply with the naturalistic-psychologicistic epistemological perspective. In this framework, subjectivity is seen as a characteristic of any human individual. It consists, among others, of the capacity of the active development of some psychobiological dispositions like talents or preferences, the reshaping of the elements of the external environment according to one's own system of values, the capacity of making free choices and autonomous decisions or a satisfactory commitment to relationships with others, etc. This type of subjectivity is independent of the historical moment or cultural conditions – the individuals are absolutely entitled to it. The notion of human nature is crucial here and constitutes a source of subjective characteristics.

When it comes to the concepts formulated within socio-cultural thought that are in compliance with the anti-individualistic – anti-psychologicistic epistemological perspective, the human subjectivity (if at all considered) is expressed by the relative individual independence of structural determinism; or the possibility to take individualized actions (at least within some spheres of culture and social structure) and the potential significance of these actions for the shape of the social structure and culture. This depiction is founded on the less radical version of methodological anti-individualism. Constituting subjectivity, understood as the individual's influence on the shape of the socio-cultural structure, is possible, provided that there is a specific subjectivity of the structure – i.e. its sensitivity to the individual's actions. The idea of human nature is here hardly present; it is merely granted that possible subjectivity is situated within the scope that is determined by the culture and social structure at the given moment of historical development.

Historical concepts concerning subjectivity are significantly more difficult to classify as belonging to one of the epistemological perspectives. In general, historians tend to emphasize that human beings usually do not play a role of subject or agent that can exercise control over their own fate. The possible human subjectivity is always mediated by the shape of the historical process. The historical process, in turn, is considered as dependent on the image of the world accepted by the authors from the very beginning.

One could argue that, when it comes to history, the epistemological perspective of scholars is even more arbitrary with respect to the studied world than within other considered disciplines (psychology or sociology).

The historian's field of studies does not influence him directly, simply because it is not accessible for observation. In this situation, he can extrapolate his own image of the world and human beings on the studied time spans as long as they are in compliance with his tasks and the questions he intends to answer. So the epistemological perspective steers the process of studying towards a coherent interpretation of the dependencies that link various phenomena. On the other hand, this can be perceived as an obstacle for taking into account some aspects of the studied objects that simply reach beyond their limits. To account for them, a different perspective is required.⁸⁷

Therefore, the main idea presented in the paper is that the difference between the Braudelian man from the Mediterranean seaside and Gurevich's man of the Western Middle Ages is due to different images of the world and of humans that had been accepted by these two authors – they were proponents of various concepts of historical order. In other words, Braudel's point of view on the Mediterranean world differs from Gurevich's point of view on the Middle Ages, which significantly influences the shape of the results of their studies.

As mentioned above, Braudel strongly believes that the individuals living within the social (or natural) structure are to play roles that already had been defined – all the elements of the roles are formerly present in the structure. This standpoint stays in compliance with the collectivistic way of analyzing the socio-cultural world. What is typical of Gurevich, he perceives the historical world in the light of mutual dependencies between the society and the individuals. The individuals are situated in the necessary context of social relations characteristic for the European Middle Ages. Nevertheless, these conditions are not only coercive but also create opportunities to reveal individuality or subjectivity.

The conceptualizations of human subjectivity deriving from historical psychology and historical sociology or the sociological theory of personality seem to be some kind of compromise. Historical psychology denies such a vision of history that is absolutely deterministic and leaves no place for individual activity. Yet individuals are capable of thinking and acting independently – at least to some extent. The deterministic perspective is impossible to prove with regard to the results of psychological research.

⁸⁷ In this manner (as consecutive sequences of the epistemological perspectives) one can describe the process of the development of any scientific discipline or group of disciplines. See e.g. K. Zamiara, *Dwa typy myślenia w humanistyce...*, p. 129.

On the other hand, historical sociology and the theory of personality understand subjectivity above all as a specific characteristic of society – its capability of self-transformation. They postulate a vision of the individuals as having significant influence on the course of action, provided that they are not absolutely autonomous. They contribute to creating society, but under structural conditions that are inherited from the former generations, also conforming to some limiting (and stimulating) properties of the social structure. However, instead of the limiting and deterministic tendencies, these concepts account both for the collective and individual activity performed by people who actively construct their social world. The idea of a fatalistic history is here replaced by the openness and multi-directionality of the historical process.

Let me summarize by referring to the apt words of Phillip Abrams, representing historical sociology: “human agency encounters social possibility and can be seen clearly as simultaneously determined and determining.”⁸⁸

⁸⁸ P. Sztompka, *The sociology of social change*, Blackwell, Oxford 2005, p. 207.

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