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Dossier Ludwik Fleck

“Pani z pieskiem” (“Lady with Pooch”): Ludwik Fleck’s uses of images in his epistemological works¹

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Abstract:

Ludwik Fleck (1896-1961) was a bilingual academic conversant with the medical and philosophical vocabulary in both Polish and German. This paper pays tribute to Fleck’s academic bilingualism and focuses on his uses of images in the original versions of his epistemological works “Some Specific Features of the Medical Way of Thinking” (1927), “Crisis of Reality” (1929), “Scientific Observation and Perception in General” (1935) and “To Look, To See, To Know” (1947). Images are understood as actual artifacts as well as literary metaphors that structure Fleck’s thinking on epistemology. By examining Fleck’s rhetoric in the original Polish and German versions of these texts this paper unfolds the multifaceted meanings and connotations of the various image metaphors and illuminates the rhetoric impact of Gestalt psychology on Fleck’s ideas on cognition.

Keywords:

Ludwik fleck; philosophy of science; history of science; art history; literary approaches in philosophy of science; the notion of the image in philosophy

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Ludwik Fleck (1896-1961) was a bilingual academic conversant with the medical and philosophical vocabulary in both Polish and German.³ A physician by training, he conducted medical research and published the results in about forty papers, mostly in Polish and German.⁴ This paper pays tribute to Fleck’s

¹ This paper is based on a presentation delivered at the conference “Ludwik Fleck’s Theory of Thought Styles and Thought Collectives – Translations and Receptions” which took place in March 2016 in Wrocław, Poland. The conference was organized by the Project Science Foundation (Fundacja Projekt Nauka), the Ludwik Fleck Centre at the Collegium Helveticum in Zurich, the Federal Institute of Technology in Zurich (ETHZ) and the Max Planck Institute for the History of Science in Berlin.

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³ Bearing in mind Fleck’s upbringing in Lemberg (Lviv), which was part of Austro-Hungary until 1918 and the fact that German was the academic language at that time one can conclude that German was Fleck’s second academic language beside Polish. On Fleck’s biography see Werner, Sylwia; Zittel, Claus; Schmaltz, Florian (Eds.) *Ludwik Fleck: Style myślowe i fakty: Artykuły i świadectwa*. Warszawa: Wydawnictwo IFiS PAN, 2007. On Fleck’s academic environment see Löwy, Ilana (Ed.) *The Polish School of Philosophy of Medicine: From Tytus Chalubinski (1820–1889) to Ludwik Fleck (1896–1961)*. Boston: Kluwer, 1990.

⁴ In 1927 Fleck published in Polish his first work in the philosophy of medicine “Some Specific Features of the Medical Way of Thinking” (“O niektórych swoistych cechach myślenia lekarskiego”). Two years later he published in German

academic bilingualism and focuses on his uses of images in the original versions of his epistemological works "Some Specific Features of the Medical Way of Thinking" (1927), "Crisis of Reality" (1929), "Scientific Observation and Perception in General" (1935) and "To Look, To See, To Know" (1947). Images are understood as actual artifacts as well as literary metaphors that structure Fleck's thinking on epistemology. By examining Fleck's rhetoric in the original Polish and German versions of these texts this paper unfolds the multifaceted meanings and connotations of the various image metaphors and illuminates the rhetoric impact of Gestalt psychology on Fleck's ideas on cognition.

Fleck's works are replete with images. In the Polish and German editions Fleck uses *obraz/Bild* ("image") and *postać/Gestalt* for the abstract or mental image and designates *rysunek/Bild* ("picture") and *ideogram/Sinn-Bild*, which was translated as "ideogram" in English, as "graphic representations of certain ideas, of a certain sense" such as anatomical illustrations. Especially *postać/Gestalt* is closely entangled with Fleck's core question of how cognition is formed in general and of what determines a scientific fact such as the perception of pathological forms in medicine. This paper therefore embarks on the term "Gestalt", being central in Gestalt psychology and predominant in Fleck's above listed works. This analysis is complicated by the fact that the English translations provided the terms "form" and "shape" where it should say "Gestalt"; a term used by the Polish and German texts and which is a fully valid word in the English language. Thus, one of the aims of this paper is to highlight the originally employed terms of "Gestalten" and, where necessary, to offer a more accurate translation.

Methodologically, this paper does not aim to coherently analyze Fleck's works in the intellectual-historic context of the Gestalt psychologists of his time, as has been proposed by the historian and literary scholar Claus Zittel (Zittel, 2013, 23-24). It rather follows a literary-exegetic approach by simultaneously widening the scope from the study of the term "Gestalt" to the broader and entangled notions of the image in the workings of Fleck's epistemology. In this sense, the title "Lady with Pooch" alludes to an illustration used by Fleck in "To Look, To See, To Know" (1947) which points to the connections between Gestalten.

Cognition – an “act of creation”

Fleck derives his ideas on cognition from his medical observations. In "Some Specific Features of the Medical Way of Thinking" (1927) he asks, "What is an illness?" and provides the following answer:

These (abnormal) types, these ideal, fictitious pictures [*obrazy*], known as morbid units, around which both the individual and the variable morbid phenomena are grouped, without, however, ever corresponding completely to them – are produced by the medical way of thinking, on the one hand by specific, far-reaching abstraction [*abstrahowanie*], by rejection [*odrzuć*] of some observed data, and on the other hand, the specific construction [*budowanie*] of hypotheses, i.e. by guessing of non-observed relations. (Fleck, 1927, in Cohen; Schnelle, 1986, 40)

The cognition of pathological facts is vividly described as a creative process informed by abstracting, by rejecting some observed data and by constructing of hypotheses; it comes close to a "modeling", to become a "scientific fiction" or *fikcja naukowa* that is formed historically and by means of intuition (Fleck, 1927, in Cohen; Schnelle, 1986, 44). In "Crisis of Reality" (1929) Fleck gives a more precise account of cognition:

For cognition is neither passive contemplation nor acquisition of the only possible insight into something given. It is an active, live interrelationship, a reshaping and being reshaped, in short, an

"On the Crisis of 'Reality'"("Zur Krise der Wirklichkeit") in the journal *Die Naturwissenschaften*. "Scientific Observation and Perception in General" ("O obserwacji naukowej i postrzeganiu w ogóle") was publicized in Polish in the philosophical review *Przegląd Filozoficzny* in 1935 and also accompanied the otherwise German main work *Entstehung und Entwicklung einer wissenschaftlichen Tatsache: Einführung in die Lehre vom Denkstil und Denkkollektiv* (*The Genesis and Development of a Scientific Fact: An Introduction to the Theory of Thought Style and Thought Collective*). "To Look, To See, To Know" ("Patrzyć, widzieć, wiedzieć") Fleck published in Polish in the philosophical journal *Problemy* (*Problems*). Robert S. Cohen and Thomas Schnelle translated these texts into English and included them to *Cognition and Fact: Materials on Ludwik Fleck* in 1986. For a detailed overview of Fleck's translations see <http://ludwikfleck.pl/works/list-of-analysed-texts/> (Consulted September, 24th 2016)



act of creation [Schaffen]. Neither the 'subject' nor the 'object' receive a reality of their own; all existence is based upon interaction and is relative." (Highlighted in the original; Fleck, 1929, in Cohen; Schnelle, 1986, 49)

Fleck describes cognition as an actively generated reciprocal process, a "live interrelationship" or *lebendiges Beziehungengehen* which becomes an "act of creation" or "Schaffen". This aspect of "interrelationship" harks back to the ideas of the Gestalt psychologists. According to Christian von Ehrenfels (1859-1932), the act of seeing is neither passive nor active, it is based on the creation of relationships. Ehrenfels speaks of a cognitive "fusion", which has to be formed among Gestalten of different senses; "the intimate fusion of touch, temperature and sometimes also taste and smell sensations" (Ehrenfels 1890; Smith, 1988, 97).

Learning to see and "readiness"

Crucial to Fleck's understanding of cognition is the idea that in order to "see", that is, to overcome mere non-directed "looking" (*patrzeć*) the observer has to know what to perceive (*spostrzegać*). This knowledge is based on a trained and directed "seeing" (*widzieć*) which one acquires in practice, as Fleck outlines in "Scientific Observation and Perception in General" (1935):

When I look at the microscopic preparation of, e.g. a diphtheria culture, then, to use common parlance, I see only a certain number of lines having a certain specific structure (or colour), a certain form [*kształt*] and a certain arrangement [*układ*]. However, it would be futile on my part to try to describe these three elements of the image [*obraz*] so as to render in words, univocally for the layman, the image [*obraz*] of the characteristic form [*postać*] which is seen by the trained observer, but which the layman is simply unable to see at the beginning. Nevertheless, after a short period of time, almost all of the pupils acquire the ability to perceive [*zdolność postrzegania*] it, and reach results which are consistent (at least to a large extent). Thus one first has to learn to look ["*patrzeć*"] in order to be able to see [*spostrzegać*] that which forms the basis of the given discipline. (Fleck, 1935, in Cohen; Schnelle, 1986, 59-60)

Fleck explicitly differentiates between "kształt" and "postać", which were both translated as "form" in the 1986 volume. "Kształt" refers to a visually conceivable material composition, which is almost synonymous with the following "arrangement" or "układ" where "postać" seems to comprise the notion of a sharply contoured concrete entity. This entity or Gestalt is the object of the "trained observer" who through time acquires an "ability to perceive", understood as a trained seeing dictated by the given discipline.

At the outset of "Crisis of Reality" (1929) Fleck further stresses the aspect of learning and the social factors involved in this process:

In this manner three systems of factors come into account, that contribute to every process of cognition (*Erkennen*), are interrelated and interacting: the burden of Tradition, the weight of Education, and the effect of the Sequence of the acts of cognition. (Fleck, 1929, in Cohen; Schnelle, 1986, 47)

Fleck concludes that one never resembles "a *tabula rasa* as is the screen before a film is projected on it" (Fleck, 1929, in Cohen; Schnelle, 1986, 48). In "Scientific Observation and Perception in General" (1935) Fleck further argues that in order to perceive a certain Gestalt one needs "a special readiness" (Fleck, 1935, 62). In this context, the original Polish text contains the notion of *postać* or *Gestalt* and formulates this readiness as a *pogotowie do dostrzegania pewnej odrębnej postaci* – literally "the urgent readiness to see a distinct Gestalt".⁵ This readiness is coined by a "sequence" of the acts of cognition, a repeated and organized process involved in scientific observation.

⁵ In Polish, "pogotowie" is primarily used in terms of "pogotowie ratunkowe", i.e. "emergency service" or "ambulance". See *Słownik języka polskiego* (Dictionary of the Polish Language): <http://sjp.pwn.pl/szukaj/pogotowie.html> (Consulted September, 24th 2016)

One discovers a similar account of cognition in *Über Gestaltpsychologie und Gestalttheorie* (1929). Erich Jaensch and László Grünhut underline the aspect that the psychic organization "as a whole" "intends" something. The authors speak of a "Gerichtetsein", a directed perception towards objects and qualities:

Das Verhalten des Ganzen wird vielmehr dadurch bestimmt, dass die seelische Organisation als Ganzes etwas intendiert; sie zeigt mit allen ihren Teilmomenten eine einheitliche Richtung ["one-sided direction"] auf Gegenstände oder Werte. (Jaensch; Grünhut, 1929, 22)

Once the observer has internalized a specific Gestalt this readiness becomes a "mental habit", which has been carried out consciously before (Fleck, 1935, in Cohen; Schnelle, 1986, 67). The evident difference between Jaensch and Grünhut and Fleck's ideas is Fleck's novel notion of "thought collective" that determines the way we perceive the world. This notion is naturally lacking in the work of the Gestalt psychologists and will be explained later in this paper.

How to see a new form (Gestalt)

The Gestalt psychologists understood Gestalt as a mental entity that is made up by different sensations. In *Über Gestaltqualitäten* (1890) Ehrenfels suggests that as soon as one is committed to the idea that something *other* than the sum of the tones makes up the melody "one has in effect accept what we call the tonal Gestalt" (Ehrenfels 1890, in Smith 1988: 91). By a Gestalt quality Ehrenfels precisely understands

a positive content of presentation bound up in consciousness with the presence of complexes of mutually separable (i.e., independently presentable) elements. That complex of presentations which is necessary for the existence of a given Gestalt quality we call the foundation of that quality. (Ehrenfels, 1890, in Smith, 1988, 93)

In describing a Gestalt as something *more* than a sum of its parts Ehrenfels further refers to the physicist and philosopher Ernst Mach (1838-1916) who used the term Gestalt to indicate the characteristics of a whole that depend on the specific configuration of its parts.

Fleck's "To Look, to See, to Know" (1947) reverberates this psychological idea of Gestalt in stressing the function of such "wholes":

It is precisely such entities [*całości*], which thrust themselves upon sensory perception [*spostrzeganie zmysłowe*], and which are to a large extent independent of their constituent elements, that psychology calls "forms" [*postać*], regardless of the sense which supplies them. Thus we can have visual forms [*postacie*], e.g. cross, letter, figure; or auditory, e.g. a certain tune, a word; or olfactory ones, e.g. the smell of grocers' shops, or of railway stations. (Fleck, 1947, in Cohen; Schnelle 1986, 131)

In the Polish text, Fleck explicitly uses the term *całości* or "wholes", not "entities" as was proposed by Cohen and Schnelle and instead of "forms" Fleck employs *postacie* or *Gestalten* (Fleck, 1947, 75). He argues that these Gestalten "thrust" themselves upon our perception. This aspect seems to refer to Ehrenfels who points out that "the Gestalt quality sometimes forces itself into the foreground, that is, makes demands on our attention" (Ehrenfels, 1890, in Smith, 1988, 95).

Fleck exemplifies his theory on the letter A (fig. 1). A can have a "highly varied form, despite the change of many details it still remains the letter A. "We say that the form can be transposed", what Fleck boldly highlights in the Polish article. The term "transposition", also boldly highlighted, seems to be derived from Jaensch's and Grünhut's works but also those of Wolfgang Köhler's (1887-1967). Köhler greatly contributed to the development of Gestalt psychology and worked closely with the renowned psychologists Kurt Koffka (1886-1941) and Max Wertheimer (1880-1943). According to Köhler, due to "transposition" a

Gestalt quality can be transferred to other objects – just as the notes of musical melodies do not change their relation to each other when the melodies are moved or transposed to different keys.⁶



Fig. 1. From Ludwik Fleck: "To Look, to See, To Know" in (Cohen; Schnelle, 131).

It is noteworthy that Fleck's semantic exegesis follows a visual analysis of the formal characteristics of the thing represented in the illustration, that is, the analysis of the black and white form, an approach central to the early Gestalt psychology. For instance, Ernst Mach points out that in examining two figures which are alike or "gleiche Gestalten" but colored differently, the observer recognizes their sameness of form or "gleiche Form" at the first glance, in spite of the difference of color-sensation (Mach, 1886, 43). Fleck never addresses this aspect – it is the contours of the Gestalt and their arrangement that are decisive. In this sense, Fleck concentrates on the contours of the letter A and describes it as consisting of two arms converging at the top and of one cross-piece. The arms can be of equal or unequal length, they can be inclined more or less but they must meet at the top. Otherwise A turns into H, its so-called "competing form" or "postać konkurencyjna", again highlighted in the Polish article.

If the converging tendency of the arms is marked by their mutual inclination, Fleck further argues, a small gap does not spoil the Gestalt: we complete it automatically because we know the context to which it belongs (Fleck, 1947, 134). Fleck concludes:

We walk around without seeing any point, lines, angles, light or shadows from which we would have to arrange 'what is this' by synthesis or reasoning, but we see at once a house, a memorial in a square, a detachment of soldiers, a bookshop window, a group of children, a lady with a dog, all of them ready forms. (Fleck, 1947, in Cohen; Schnelle, 1986, 134)

Or as the Polish version has it: *Widzimy same gotowe postacie* – "We see ready Gestalten". In this context, Fleck seems to refer to Ehrenfels who stresses that some effort is required in grasping a shape by filling out and complementing the Gestalt suggested by the foundations, for instance when "seeing" the third dimension suggested by the cues of a perspectival drawing (Ehrenfels 1890, in Smith 1988, 111). While one does not actually generate the Gestalt in a separate act specifically meant to add to the foundation, one expends the energy in completing the required set of elements needed for the Gestalt, which then arises spontaneously. In an almost self-referential manner, Fleck employs a further illustration depicting the Polish word *postać*, which lacks some arcs that the viewer adds while contemplating the image.

Fleck further draws our attention to sets of *Gestalten* or *postacie całościowe*. In "To Look, To See, To Know" he designates the more distinct Gestalten, for instance a house, a "detachment of soldiers" and the less distinct ones such as a "lady with a dog" (fig. 2). A relation can be seen in the leash or in the moving dog but it is less clear than a detachment of soldiers where one cannot distinguish its component elements. The observer discerns the set due to an implied action, such as the lady who walks the dog.

⁶ For a detailed description of "transposition" see Köhler, Wolfgang. "Simple Structural Functions in the Chimpanzee and in the Chicken" In: Ellis, W.D. (Ed.) *A Source Book of Gestalt Psychology*. London: Routledge & Kegan Paul, 1918/1938, 217-227.



Fig. 2. From Ludwik Fleck: "To Look, to See, To Know" In (Cohen; Schnelle, 135).

Thought style, thought collective and "aviso"

The core of Fleck's epistemology culminates in the concept of "thought style" and "thought collective" which is closely entangled with the notions of Gestalt and "readiness":

There exists a certain collective of men [*kolektyw myślowy*] possessing a common thought-style [*styl myślowy*]. This style develops, and is, at every stage, connected with its history. It creates a certain definite readiness, imparts it by sociological methods to the members of the collective, and dictates what and how these members do see. This picture [*obraz*] appears first as a result of a thought-experiment *sui generis*: from the stores of traditional pictures one fits on some pictures and their combinations; next some of them are rejected, others are stylized, then a battle [*walka*] takes place with the alternately intruding pictures – and finally, a new readiness is formed; i.e. the readiness to see a new specific form [*postać*]. (Fleck, 1935, in Cohen; Schnelle, 1986, 72)

As has been the case with *kształt* and *postać* in this quotation the distinction between *obraz* or "image" and *postać* or *Gestalt* is fundamental: *obraz* is a vague and random image, it appears in the realm of other *obrazy* that have not yet been identified as Gestalten where a Gestalt is always concrete, such as the Gestalt of an organ in anatomical illustrations.

What is called a scientific fact that what we call "real" Fleck describes as an *awizo oporu*, or "aviso of resistance", which pushes against the flickering chaos of (non-concrete) images until it emerges as a directly (re-)cognizable Gestalt – not "form" as has been used in the English translation – an "object" that the members of the collective treat as a "fact existing outside and independent of them".⁷ *Awizo oporu* is used as a literary metaphor that becomes central for Fleck's epistemology. There are two levels of *awizo oporu* – one related to what the scientist individually perceives and the other one related to the logic of the thought collective.

⁷ Since the English translation does not employ Gestalt, which is central to the text's understanding, I refer to the original Polish version of "Scientific Observation and Perception in General": "odkrycie zjawia się naprzód jako słabe awizo oporu ["aviso of resistance"] hamującego naprzemienne oscylacje myślowe w twórczym chaosie myśli. Z tego awiza powstaje drogą socjalnego stylizującego krążenia myśli udowodnialna, tj. dająca się umieścić w stylowym systemie myśli. Dalszy rozwój zmienia ją w myśl – w ramach stylu – oczywistą, w postacią swoistą [*characteristic Gestalt*], bezpośrednio poznawalną, w „przedmiot” [*object*], do którego członkowie kolektywu muszą się odnieść jako do faktu zewnątrz istniejącego, niezależnego od nich. Taka jest ewolucja tego co nazywamy „rzeczywistym”." In: Fleck, 1935, in Werner; Zittel; Schmaltz, 2007, 127.

The English text translates *awizo oporu* as a "feeble advice" but the meaning of "aviso" is much more multifaceted. Coming from the Spanish language, both in English and Polish "aviso" can mean "a piece of advice", a "report" or a "small fast gunboat", in music it describes the upbeat movement of the director that determines the dynamics of the piece.⁸ If one thinks of "aviso" in the context of Gestalt psychology, which often references music (the Gestalt can be made up of different musical elements), *awizo oporu* can be understood as a multi-sensorial Gestalt, which obstructs and at the same time creates new relationships between already existing parts.

In this sense, Fleck understands the discovery of a new fact as follows:

Hence the new observation, i.e. the discovery is carried out in such a way that, during the epoch of equilibrium, there arises a certain intellectual unrest [*niepokój*] and a tendency towards changes; a chaos of contradictory, alternate pictures [*chaos sprzecznych naprzemiennych obrazów*]. The picture [*obraz*], fixed up to now, disintegrated into blobs [*kleksy*], which arrange themselves into different, contradictory shapes [*postacie*]. From other fields, previously separated or neglected, some motives [*motywy*] are added; historic connections, almost accidental, various intellectual relics, often also the so-called errors, mistakes and misunderstandings for their part, add other motives. At this creative moment [*moment twórczy*] there becomes embodied in one or more investigators the mental past and present of the given thought-collective. All physical and mental fathers are with them, all friends and enemies. Each of these factors pulls to its side, pushes or inhibits. Hence the flickering chaos. It depends on the intensity of feeling of the investigator whether the fact, whether the new shape [*postać*] will appear to him within this chaos as a symbolic vivid vision [*jaskrawa wizja*], or else as a weak hint of a resistance [*słabe awizo oporu*] which inhibits the free, almost discretionary choice between alternate pictures [*obrazy*]. In both cases it is necessary to defend the new shape [*postać*] against scattering [*rozwianie się*]: it must be separated from what, from that moment onwards, will be unimportant, accidental. It is necessary to create directional interests, and to destroy inimical interests. One has to create another mental readiness [*pogotowie myślowe*] and to educate people to live in it. If one manages to do this, all of the participants will see the form [*postać*] directly, with their own eyes as if it were the only one, everlasting truth, independent of the people. It is only a subsequent tuning [*przeestrojenie*] that will permit us to see that it has its own style conditioning and that it was a resultant determined historically. (Fleck, 1935, in Cohen; Schnelle, 1986, 76-77)

Fleck describes the development of a scientific fact in martial terms, a conflict between already existing and new occurring images. During the equilibrium there arises an unrest (*niepokój*), a tendency towards changes; in the flickering chaos of contradictory alternate images, the accepted images will disintegrate into blobs (*kleksy*), rearrange into contradictory Gestalten, where other motives, designated as "historic connections", are added. In this "creative moment", in which all "mental fathers", "all friends and enemies", are with them – each of these factors pull, push and inhibit. It is striking that it depends on the researcher's individual "intensity of feeling" whether in the chaos of occurring images one cognizes the new Gestalt as a "vivid vision" or as a "feeble aviso".

The English translation "vivid vision" does not evince the semantic density of *jaskrawa wizja*, which makes perfect sense in the German translation as *grelle Vision*; it is a piercing, a glaring, intense in lighting (but not necessarily in color), reminiscent of the visions of the Old Testament. The aforementioned meaning of "gunboat" adds an extra semantic layer to this scenario. One can imagine that this gunboat aggressively inhibits the chaos. Once the new Gestalt has been established it is necessary to "defend" it from "scattering" where the Polish *rozwianie się* literally translates as the "disintegration in the wind". One has to create directional interests, Fleck further argues, and destroy inimical interests, finally one has to "educate the people" to see the new Gestalt as if it were the truth.

In "To Look, to See, to Know" Fleck describes cognition in similar imperious terms:

⁸ See the Oxford English Dictionary at <http://www.oed.com.331745941.erf.sbb.spk-berlin.de/view/Entry/13775?redirectedFrom=aviso#eid> and *Słownik języka polskiego* <http://sjp.pwn.pl/szukaj/awizo.html> (Consulted September, 24th 2016).

If every observation, the ordinary everyday one, or the most accurate scientific one, is a modeling [*modelowanie*], the pattern [*szablon*] is supplied by the collective body. And there is no other possibility. (Fleck, 1947, in Cohen; Schnelle, 1986, 147)

In this context, the notion of "modeling" lacks the creative connotation usually involved in this activity; the thought style, which imparts on the viewer in the process of seeing, thinking and perceiving, is described as a *przymus*, a constraint of thought. "Seeing" or *widzieć* is a directed activity, which forces its "pattern" onto the onlooker: "To see means: to re-create a picture [*obraz*], at a suitable moment created by the collective to which one belongs" (Fleck, 1947, 78). Thinking is furthermore considered a collective activity. It is subjected to specific changes in time and displays a historic continuity of these changes. Its product is a certain Gestalt that is visible only to those who participate in this activity. What one thinks and how one sees, that is, our mental amalgam of images, depends on the thought-collective to which one belongs.

As a result, in "To Look, to See, to Know" the role of Gestalt becomes crucial as it stands at the outset of any complex thinking: "If our seeing had not been of the form-perceiving type [*widzenie postaciowe*], who knows whether abstract concepts would have arisen, or whether generalization and, in general, knowledge would have been possible". (Fleck, 1947, in Cohen; Schnelle, 1986, 140) Fleck describes the directed "seeing" literally as a "widzenie postaciowe" or "Gestalt-seeing" – the origin of all knowledge.

Conclusion

In this paper I have argued that the various image metaphors help Fleck describe the mental processes involved in cognition. Fleck generally considers cognition an "act of creation". Yet the seeing of concrete Gestalten – the scope of the thought collective and the result of the thought style – is described as an aggressive operation. The term Gestalt, as derived from Gestalt psychology, designates a concrete thing, the object of the researcher and participates in the notion of a trained seeing; it "thrusts" itself onto our perception. What medicine considers an illness or a scientific fact Fleck understands as an image dictated by the given discipline. Being "never an enduring state", this image changes continually.

My interpretation pointed to the fact that Fleck followed a literary approach that influenced his thinking on reality. What we call "real" is the result of a creative act; a fictitious image produced not through a coherent and logical process but by (the researcher's) affect. With this creative conception of reality, Fleck's ideas undermine the notion of a mechanical "objectivity", an epistemic ideal produced by the putatively objective photographic apparatus in the mid-nineteenth-century. Objectivity was famously addressed by the historian of science Thomas Kuhn in the notion of "paradigm" and summarized in the eponymous historical compendium by Lorraine Daston and Peter Galison. This aspect, however, could not be discussed in this paper.

The originality of Fleck's epistemology seems to lie in Fleck's eclectic approach. Fleck does not coherently refer to a specific writer or a specific period in Gestalt psychology. His epistemic key terms oscillate between the ideas of Christian von Ehrenfels, Erich Jaensch, László Grünhut and Wolfgang Köhler. At the same time, he constructs his methodology around the ideas of Gestalt psychology. It is striking that in the works that are accompanied by illustrations his semantic exegesis follows a visual analysis of the formal characteristics of the thing represented in the image, that is, the analysis of the black and white form. As such, Fleck was not an exceptional thinker. His works can be linked to those of his contemporary, the famous art historian Ernst Gombrich (1909-2001). In a similar eclectic manner Gombrich references Gestalt psychology, most notably in *Art and Illusion* (1960) subtitled as "A Study in the Psychology in Pictorial Representation".

Lastly, one should bear in mind that Fleck's most important contribution to epistemology – which on no account does he understand as a Gestalt psychology, but as a "social epistemology" – are the concepts of thought style and thought collective as well as the notion of readiness that add a social layer to his visually conceptualized epistemology, and which are naturally absent in the work of the Gestalt psychologists.

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