

***Ludwik Fleck's Scientism***  
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In a recent paper in *Social Epistemology* Dimitri Ginev aims to show that Ludwik Fleck uses transcendental arguments in two contexts in his work that are closely intertwined: the context of comparative cognitive sociology and the context of socio-historical epistemology (Ginev 2015, 3-4). I am skeptical about Ginev's interpretation and my aim is to show that at least the part of Ginev's argument in which he aims to show Fleck's use of transcendental arguments in the context of socio-historical epistemology is not convincing. To my mind, a much better interpretation of Fleck's argument in this context is to see Fleck as using *scientific* instead of *transcendental* arguments. Since my argument will be based on a much closer reading of Fleck's wording than is provided by Ginev, I can only focus on a very short passage in Ginev's paper and will not discuss the paper as a whole.

**Ginev's Interpretation of Fleck's 'Science and Environment'**

In order to show that Fleck's argument is scientific instead of transcendental, I will focus on Ginev's interpretation of Fleck's argument for the "prevention of science from political distortion" (Ginev 2015, 4). Especially in his paper *Science and Environment*<sup>1</sup> Fleck aims to demarcate his own position concerning the influence of the environment on science from propagandistic receptions of his theory especially by Nazi-authors. As Ginev rightly claims, Fleck argues against "the politically motivated externalism about the formation of science's cognitive content" (Ginev 2015, 4). However, I am skeptical about Ginev's interpretation of Fleck's argument at this point.

According to Ginev, Fleck argues that the thought-styles of scientific communities provide some kind of cognitive barrier against the intrusion of politically motivated, external manipulations:

The whole process of research runs within (what Fleck calls) the 'collective mood of cognition' (*kollektive Erkenntnisstimmung*). Being implicated in practices that are in a complicated fashion entangled with this mood, a thought collective is critical towards accepting aims and values that are imposed externally, and are not inaugurated by community's thought style. Thus, a thought style armors a scientific community with resources for resisting the external ideological and political manipulations (Ginev 2015, 4).

It is at this point, Ginev claims, that Fleck uses transcendental arguments: these are used by Fleck to specify "the conditions under which a thought style warrants the cognitive autonomy in the constitution of facts and objects of inquiry" (Ginev 2015, 5).

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<sup>1</sup> Polish original: "Nauka a środowisko". Like Ginev, I will refer to the German translation "Wissenschaft und Umwelt" (Fleck [1939] 2011a) from which I translated the quoted passages into English.

Now, I admit that it is possible to interpret Fleck's resistance against the ideological intrusions of science along the lines of such a cognitive barrier against ideas foreign to specific thought-styles. As Ginev rightly observes (see Ginev 2015, 5), Fleck describes the thought-style of the natural sciences to be democratic in the following sense:

If the masses occupy a stronger position, a democratic tendency will be impressed upon this relation [between esoteric and exoteric circles; *M.S.*]. The elite panders, as it were, to public opinion and strives to preserve the confidence of the masses. This is the situation in which the thought collective of science usually finds itself today (Fleck 1979, 105).

Now, it might be argued, this role of the masses in relation to the elite of the natural-scientific thought-collective—together with the general tenacity of systems of opinion<sup>2</sup>—hinders the intrusion of non-democratic, politically external ideas. Note, however, that this interpretation has the following problem: since, as Fleck claims, the elite panders to public opinion the esoteric circle is strongly dependent on opinions and factors that are external to it and that are part of the exoteric circle. How, so it has to be asked, is it possible for Fleck to claim that the natural-scientific thought-collective can provide a cognitive barrier against the intrusion of political ideologies on this interpretation? Isn't the thought-collective with its "dominance of the mass over the elite" (Fleck 1979, 124) much more prone to external political intrusion than e.g. religious thought-collectives in which "the elite enjoys the stronger position, [such that] it will endeavor to maintain distance and to isolate itself from the crowd" (Fleck 1979, 105f.)?

To my mind, because of these interpretative problems Ginev's idea to interpret Fleck's resistance against the intrusion of politically external factors on science by focusing on a kind of thought-style immanent cognitive barrier is not convincing. Moreover, it is surprising that Ginev does not take into account the argument Fleck himself uses in *Science and Environment* but proposes a quite remote interpretation from Fleck's concrete wording.<sup>3</sup> There is an alternative interpretation that fits much more neatly with Fleck's overall project and with his wording in *Science and Environment*: it is to interpret Fleck's argument not as transcendental argument but as scientific argument. I will start by focusing on Fleck's overall project to inaugurate a scientific, comparative epistemology and afterwards have a close look on Fleck's argument in *Science and Environment*.

### **Fleck's Scientism and His Philosophy of Science**

Since Ginev in another paper in *Social Epistemology* also treats the issue of scientism<sup>4</sup> and since the label 'scientism' is used for a whole bunch of different theses and positions<sup>5</sup> let me make clear right from the start of my argument what I mean by 'scientism' in

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<sup>2</sup> See Fleck 1979, 27: „Once a structurally complete and closed system of opinions consisting of many details and relations has been formed, it offers enduring resistance to anything that contradicts it”.

<sup>3</sup> The only reference at this point of Ginev's interpretation is the rather broad remark „Fleck 2011, 329-331“.

<sup>4</sup> See Ginev 2013.

<sup>5</sup> See Stenmark 1997.

Fleck's work: I will refer to Fleck's thesis—to be found all over his work<sup>6</sup>—that reflections on science should no longer be speculative or metaphysical but itself scientific and based on empirical investigations: “There is therefore no *raison d'être* for any speculative epistemology, even if it be regarded as a deduction from several examples. A great deal still remains to be investigated empirically and discovered about the process of cognition.” (Fleck 1979, 11). For Fleck, epistemology can only become a science if it becomes a comparative science and “[e]pistemology thus understood is a science of thought-styles” (Fleck 1986a, 98). This science aims to find out the historical and sociological *laws* at work in the genesis and development of thought-styles (see e.g. Fleck 1979, 9 and 23). For Fleck, such a scientific, comparative epistemology has a deliberating effect (see Fleck [1937] 2011, 326). Intracollectively, thought constraints cannot be dispersed.

To the unsophisticated research worker limited by his own thought style, any alien thought style appears like a free flight of fancy, because he can see only that which is active and almost arbitrary about it. His own thought style, in contrast, appears imperative to him, because although he is conscious of his own passivity, he takes his own activity for granted. It becomes natural and, like breathing, almost unconscious, as a result of education and training as well as through his participation in the communication of thoughts within the collective (Fleck 1979, 141).

However, according to Fleck, there is a possibility to become conscious also of the active elements in one's own thinking:

In cognition this [resistance, *M.S.*] appears as the connection between phenomena which can never be severed within the collective [...]. This linkage seems to be truth and conditioned only by logic and content. Only an investigation in comparative epistemology, or a simple comparison after a change has occurred in the thought style, can make these inevitable connections accessible to scientific treatment (Fleck 1979, 101).

What is important in this context is that Fleck's scientism is for him not preferable because he finally—and self-contradictory—believes that such a scientific, comparative epistemology can be some kind of *Über-Science* that is free from sociological and historical factors and therefore can reveal *the* truth. In a remarkable passage in a reply to Izydora Dąmbska he gives the following description of “the content and value of the science of thought-styles” (Fleck [1937] 2011a, 325):

It is impossible to examine views independently of the whole culture of a given society in a specific epoch. The starting point must be a community

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<sup>6</sup> Let me just mention the places in his monograph *Genesis and Development of a Scientific Fact* where Fleck demands a *science* of knowledge and a scientific epistemology that should empirically detect historical and sociological laws: Fleck 1979, 9, 11, 22, 23, 50, 51, 76. I do not think it is necessary to point to all places in Fleck's work in which he emphasizes that his aim is to build a *science* of cognition instead of a speculative theory of knowledge: let me just refer to the articles of Zittel and myself in which many more places are mentioned (see Zittel 2010, Seidel 2011).

of people living together and such a method above all leads to a sociology of thinking that covers the most general opinions because it can be a comparative science. In the epoch we are approaching, the epoch of synthesis and of the vanishing of particularisms, it will be unavoidable. The specialisation and the differentiation within the society is growing and is going on to grow. It is out of question that the brutal attempts to bring the people into line cannot be lasting and permanent. Understanding is possible only on the basis of the comparative method: the common thought collective, free by criticism and general by tolerance, is created only in this way (Fleck [1937] 2011a, 324f).

Fleck's overly optimistic view can therefore be summarized as follows: a scientific, comparative epistemology can provide us with a more comprehensive view and lead to a common thought collective that is free by criticism and general by tolerance. And such a scientific investigation is also the best means to combat the brutal attempts to bring the people into line. Since Ginev in the abstract of his paper also says that he aims to discuss Fleck's "political agenda regarding science's 'cultural mission'" (Ginev 2015, 1), but unfortunately only takes up Fleck's use of the terms "cultural mission" and "cultural role" in one short footnote let me emphasize at this point that it is in exactly this context of describing the deliberating, political role of a scientific epistemology that Fleck—in his early writings<sup>7</sup>—uses these terms:

If [the theory of thought-styles] will overthrow only that evil spell of doggedness with which fanatics of their own style fight the people of a different style, its cultural role will be found to be of high value. If it only uncovers the mechanism of action of each bit of propaganda, it will already immunize us against an absolute submission to propaganda: it will teach that man stands above the idea, because he is the idea's creator (Fleck 1986a, 112).<sup>8</sup>

Let me now apply Fleck's plea for a scientific, comparative epistemology to interpret his view on the resistance of science against political intrusion in *Science and Environment* by having a more careful look at the exact wording in this article than Ginev and thereby undermining his argument for the interpretation of Fleck using transcendental arguments. After listing several authors as testimony for growing awareness of the dependence of

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<sup>7</sup> I admit that in his paper from 1960 *Crisis in Science*, Fleck uses the term „cultural mission“ roughly along the lines that I think Ginev has in mind: an external, political and economical intrusion on science contradicts science's cultural mission (see Fleck 1986b, 153). It should, however, also be noted that it is in exactly this text that Fleck probably makes the most scientific statement in all of his texts: "Sociology of thinking should be developed as a fundamental science equal in its value to mathematics." (Fleck 1986b, 156) and then goes on to explain how this science can help scientists to guard against political intrusion: "The scientists ignore—at least officially—this matter and become victims of it. An open-eyed attitude to propaganda will make the subject resistant to its abuse: when every school child learns that any folly, no matter how big, may be made credible by proper propaganda—a critical resistance to propaganda will rise" (Fleck 1986b, 157). Thus, also in his later work Fleck draws on his scientism to argue against the political intrusion of science.

<sup>8</sup> Note that therefore in Fleck's work science itself as well as the comparative science of cognition have a cultural mission.

science on its (cultural) environment (see Fleck [1939] 2011a, 327-328), Fleck goes on to emphasize that this dependence should lead us to fruitful investigations instead of skepticism about science:

This phenomenon of dependence of the scientific object from its epoch and environment [...] needs to be utilized for cognition. It has to be grasped such that it has a heuristic—not a skeptical—value; such that it is the starting point for fruitful investigations and not the source of superficial phrases about the non-existence of a ‘presuppositionless science’ or melancholic reflections about the ‘insecurity of every human knowledge’ (Fleck [1939] 2011a, 328f).

Fleck describes the current situation as ambivalent because the insight in the dependence of science on the environment opens up different possibilities to react on it: the more conservative scholars (*Gelehrten*) frightfully close their eyes to this fact of environmental dependence, whereas “clever politicians quickly convert the glimpsed information into demagogic slogans” (Fleck [1939] 2011a, 329). This latter strategy leads to the idea of changing science according to political ideas: “Since every knowledge is dependent on the environment, the process must be turned around: a suitable science must be produced for the artificially changed environment. Because there is no objective science anyway! Therefore a left or right, proletarian or national physics, chemistry etc. must be quickly ‘made up’.” (Fleck [1939] 2011a, 329).

For Fleck, these latter tendencies are very dangerous, because “the generation of future scientists grows up with the belief that there is no truth in the good old sense of the discipline anymore.” (Fleck [1939] 2011a, 329). How can we, according to Fleck, avoid these dangerous tendencies and use the insight in the dependence of science on the environment in a more fruitful way? Fleck’s answer is clear: what is needed is to end any intuitive speculations about science’s dependence but start to investigate the dependence of science on the environment *scientifically*: “But such a—more artistic and literary than scientific—approach, which has been mainly pursued by the authors and which depends on the intuitive feeling of similarities [...] and connections [...] is not appropriate for research.” [Fleck [1939] 2011a, 330).

What is this science that leads to a much better understanding of the link between science and environment and, in this way, protects science from political propaganda? It is the sociology of cognition and Fleck’s own comparative science of thought-styles that has this enlightening function: “Therefore, it seems to me that the starting point for positive research on the influence of the epoch on science can only be the general sociology of cognition. This necessarily leads to the concepts of thought-collective and thought-style [...]” (Fleck [1939] 2011a, 331).

Fleck unambiguously makes clear that it is such a *science* of cognition that will be the barrier against ideological intrusions on science in times in which the insight that science itself is dependent on the environment becomes more and more obvious:

Artistic impressions, intuitive conjectures and subjective empathy can in this way be transformed into relations that can be deduced (*herleiten*) from the independent laws of the sociology of cognition and the development of thinking. We avoid to fall for a fruitless doctrine of ideology and receive a science of cognition that is capable of development and rich in detail (Fleck [1939] 2011a, 331).

At the end of *Science and Environment* Fleck takes up this thought and again emphasizes the way out of the “ideological crisis and demoralization of experts” (Fleck [1939] 2011a, 334): what is needed is a “thorough science of knowledge” (Fleck [1939] 2011a, 334). Therefore, in a nutshell, Fleck’s direct argument against the danger of the intrusion of political or ideological elements in the realm of science is obviously *scientistic*: what is needed is a *science* of knowledge and this science is his comparative, social epistemology. Such a scientific epistemology will have an enlightening effect by detecting the *independent laws* of the sociology of cognition and therefore provide means against propaganda and the danger that future scientists do not believe any longer in science’s authoritative status.<sup>9</sup> I do not see any transcendental argument here but only the application of Fleck’s scientistic optimism.

### **Would Fleck Accept His Scientism?**

Let me end my discussion of Fleck’s argument in *Science and Environment* by remarking two things: first of all, note that my interpretation along scientistic lines very well fits with Fleck’s conviction—also mentioned by Ginev (see Ginev 2015, 5)—that the thought-style of natural science is democratic. However, I will focus not—like Ginev—on Fleck’s remarks about the structure of the natural scientific thought-collective with respect to the relation between mass and elite but on the following remark:

[E]very scientist has the obligation to remain in the background. This obligation is also expressed in the democratically equal regard for anybody that acquires knowledge. All research workers, as a matter of principle, are regarded as possessing equal rights. And all, in the service of the common ideal, must equally withdraw their own individuality into the shadows, as it were. Personal supposition in science is regarded as provisional; this is a specific structural aspect of the thought collective of science (Fleck 1979, 144).<sup>10</sup>

Fleck’s scientism should be understood in just this way that by a scientific investigation and comparison of thought-styles the suppositions of the natural-scientific thought-collective are at work also in reflection about science itself. In contrast to speculative, intuitive remarks about the relation between science and environment the scientific investigation of this relation embodies the ideal of “truth in the good old sense” (Fleck

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<sup>9</sup> This idea is prevalent also in Fleck’s later writings: see Fn. 7 in this paper.

<sup>10</sup> These remarks are similar to Robert Merton’s remarks about the norm of universalism in his seminal work on the ethos of science: see Merton 1973, 273.



[1939] 2011a, 329) as being *independent* of personal and speculative influences.<sup>11</sup> This ideal itself leads to a “democratically equal regard for anybody that acquires knowledge” (Fleck 1979, 144). Note, that such an idea is foreign to just those thought-collectives that with respect to its dependence on the opinion of the mass appear to provide better means to ward off external influences: religious thought-collectives. Therefore, on my scientific interpretation it is possible to explain away the problem

Ginev’s interpretation is confronted with: if just seen from the point of view of the relation between mass and elite it appears that scientific thought-collectives are more prone to ideological intrusions than religious ones; if seen, however, from the angle of an impersonal ideal of truth that is an integral part of the natural scientific thought-style it is no wonder that Fleck in demanding a *science* of cognition sees science as the best means against political ideologization and propaganda. In this sense, the scientific investigation of the dependence of science on the environment can provide the scientist with means to protect science’s ideal of truth from political intrusions since this ideal itself demands a democratic constitution of the thought-collective of science.

Secondly, what would Fleck say about my and Ginev’s differing interpretations? An answer, of course would be highly speculative and I do not aim to give one here. However, this question provides the opportunity to go a bit beyond Fleck’s text *Science and Environment* and have a look at the other texts that can be seen to be part of his debate with Tadeusz Bilikiewicz. I just want to make some short remarks in this context. Note that Bilikiewicz thinks that he can detect in Fleck’s thought “the echo of a transcendental idealism” (Bilikiewicz [1939] 2011, 341) but also claims “that Fleck never stops being a natural scientist” (Bilikiewicz [1939] 2011, 350) and accuses him of scientism in the sense that he aims to investigate the relation between science and environment itself with the “natural scientific method” (Bilikiewicz [1939] 2011, 349).

What is Fleck’s answer to these two aspects—transcendental idealism and scientism—of Bilikiewicz interpretation? Well, Fleck makes unambiguously clear that he takes Bilikiewicz interpretation along the lines of introducing a transcendental thing-in-itself to be nothing but metaphysics. And “nothing is more alien to me than metaphysics” (Fleck [1939] 2011b, 353). However, in his answer Fleck nowhere distances himself from Bilikiewicz accusation of an unacceptable methodological scientism! As already said, I do not want to take this fact as evidence that Fleck would not object to my scientific interpretation of his work and strongly reject Ginev’s interpretation.<sup>12</sup> Nevertheless, it

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<sup>11</sup> It is important to note that this is the ideal of truth as independent of *personal* and *speculative* influences not the ideal of truth as independent of *sociological* and *historical* influences: it is exactly the latter that Fleck’s comparative science of thought-styles aims to illuminate by detecting the independent laws at work.

<sup>12</sup> To be sure, Ginev distinguishes between three sorts of transcendental approach of which probably only the first can be subsumed to Bilikiewicz’ interpretation. And since Ginev sees Fleck’s approach as a combination of the second and third approach (see Ginev 2015, 3), Bilikiewicz’ interpretation of Fleck as a transcendental idealist is *prima facie* remote from Ginev’s interpretation.

Note however the following: a short look at Fleck’s rejoinder to Bilikiewicz makes it clear that Fleck ardently rejects any metaphysical and ontological speculations in his thought. I have to admit that I am not sure whether Fleck will therefore easily admit Ginev’s description of the second approach that, according to Ginev is supposed to be at the center of Fleck’s alleged transcendental arguments and that Ginev describes as follows: “Devising the hermeneutic circle of being-in-the-world in this manner amounts to thinking the

seems to me that my interpretation is more easily compatible with Fleck's hostility against any kind of speculative, intuitive philosophical reflection than Ginev's.

Let me make one final remark to understand more fully the impact of my argument. Perhaps, the reader of this comment might be surprised that I did not directly comment on Ginev's short criticism of my attempt to connect Fleck's and Mannheim's approach to the relativism problem (see Seidel 2011). But note that I have done indirectly during this comment. Ginev is convinced that my (and also Zittel's<sup>13</sup>) interpretation of Fleck is wrong since it aims to unduly read Fleck from the perspective of standpoint epistemology (see Ginev 2015, 11-13). He argues that:

[W]hat this perspective misses to take into consideration is the open horizon of possibilities that always transcends each particular kind of knowledge production's situatedness. [...] On this account, the 'objective truth' is still statically defined by attributing it to the epistemic position distinguished by highest critical reflexivity and capacity to maximize objectivity. By contrast, Fleck stresses the priority of the 'event of truth' over the statically defined objective truth. His concept of 'creative human truth' is not epistemological at all. [...] Thus considered, truth is an 'event in the history of thought', and not a relation between an epistemic position and reality out there (as this relation gets devised by the proponents of 'standpoint epistemologies') (Ginev 2015 12f.).

This difference is the basis of Ginev's argument against my interpretation since, according to Ginev, the difference between Mannheim, whom he reads as a proponent of standpoint epistemology, and Fleck "has to be conceived as a matter of principle" (Ginev 2015, 16 Fn. 17). I do not want to dwell on the fact that Ginev's description of what he regards as 'standpoint epistemologies' is quite simplistic,<sup>14</sup> and also not on the fact that I explicitly discuss Fleck's and Mannheim's idea of dynamic and not statically defined truth at length in my paper and that this is one of my main arguments to see both authors in the same boat (see Seidel 2011, 224-227). What I want to emphasize, however, is that my and also Zittel's brilliant interpretation stems from a specific problem in Fleck-interpretation: namely, the tension between Fleck's rejection of the "excessive respect, bordering on pious reverence, for scientific facts" (Fleck 1979, 47) that he thinks mistakenly characterizes previous sociology of knowledge on the one hand and his endorsement of *scientism* in reflecting on science and his high esteem of *scientific* investigations in sociology of knowledge itself on the other hand.

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'ontological difference' as providing the conditions under which the 'meaning of being' (the ontological meaning) can be specified as 'ontic meaning' of particular entities within-the-world. Thus, transcendental epistemology becomes transformed into a kind of 'transcendental ontology'." (Ginev 2015, 2). But, I admit, probably my puzzlement mainly stems from the fact that I simply do not understand this description of the second sort of transcendental approach.

<sup>13</sup> See Zittel 2010.

<sup>14</sup> Note that I do not aim to defend the programme of 'standpoint epistemologies' in Ginev's sense (he mentions Harding and the Strong programme) by this remark: see for a detailed criticism of the Strong programme my Seidel 2014.



Seen from this point of view my reply to Ginev directly answers his criticism of my former paper: of course, if one drops completely Fleck's scientism that is prevalent in his whole work, there is the possibility not to interpret Fleck in line with the tradition of standpoint epistemology in sociology of knowledge that—with its obvious scientism in the tradition Ginev mentions—has exactly the same problem as just described.<sup>15</sup> But this is just to overlook an integral part of Fleck's whole project—namely his engrained scientism with respect to epistemological and philosophical investigations.

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<sup>15</sup> It is, I think, very obvious that scientism is one of the main tenets of standpoint epistemologists like the proponents of the strong programme (see e.g. Barnes 2011).

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