

Truth/Utility, Autonomy/Heteronomy, Theory/Practice. On the Unity of the Difference of Educational-Scientific Dualities

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Abstract

Every scientific discipline, every university and college, every institute, every research project, every researcher is, due to the “double-faced conception of science” (Dear, 2005, p. 404), confronted with the question of the relationship of scientific autonomy and scientific relevance (utility, applicability).

The fields of educational science in particular are rooted in this double horizon of expectation. The theoretical handling of the difference of autonomy and accountability is therefore also an ongoing theme and the theories offered take the following three directions: to choose one or the other, to unite both poles in harmony or to tolerate the conflict-causing dual membership.

In this article another assumption will be made other than the separation, harmonisation or oscillation theory, namely that scientific and practice discourse complement each other: the question of utility serves the question of truth and vice versa.

Keywords: *scientific theory, knowledge production, scientific function, scientific achievement*

Problem and Thesis

Whether in Francis Bacon’s *scientia potentia est* (knowledge is power), Jacobus Le Mort’s *curiositas vel lucrum* (curiosity and profit), Gottfried Wilhelm Leibniz’s *theoria cum praxi* (very loosely: quality and relevance) or Immanuel Kant’s *Truth*

and Utility, the dual motif structure of modern science is described everywhere: “On the one hand, it is defined by the aspiration for truth and knowledge as an end in itself, while on the other hand it has the practical use of the newly acquired knowledge in mind” (Kaldewey, 2013, p. 15).

This general reference problem of modern sciences can be observed in educational science as if under a magnifying glass. In any case, if it becomes virulent as a practical problem,

- whether affecting education (cf. the expectations on the part of the students as well as on that of educational policy) – then the dualities are mostly called theory (dry)/practice (useful), discipline/profession or competence/ethos,
- or affecting scientific and higher education policies – then the dualities are mostly called research, creativity/innovation or research/development that are geared towards basic principles/applicability.

And dualities approach and denote the theoretical ongoing conflicts of self-descriptions related to educational science in relation to their scientific status. Then they are mostly called reflection/integration, end in itself/external purpose, recognition/dogmatic or classically, truth/utility.

The solutions offered in relation to disciplinary questions of legitimation, constitution and duty that can be seen immediately are the following two:

- *The separating perspective*: This recalls in an exemplary way the German double-labelling of education science/pedagogy, from which the puristic allocation occurs, whether work is carried out on critical “orientational knowledge” or behaviour influencing “available knowledge” (Mittelstraß, 1992, pp. 32–46). The segmentation corresponds to a normal “modern scientific development,” because, according to the currently widely held view, “both at the same time” is “not only very difficult, but impossible” (Tenorth, 1999, p. 64).

Nevertheless, the opposing idea is successfully maintained,

- *the harmonising perspective*: Here the many attempts not to treat “the desire for pure research and (the) demand of societal utility (...) as opposites” (Nida-Rümmelin, 2006, p. 11) range from Weniger’s “bias towards matter” (1929) and Flitner’s *réflexion engagée* (1957) to Thiersch’s “practical science” (1978) and Huschke-Rhein’s “educated practitioner” (1972) to Fuhr’s “ethical science” (2001). They build upon the assertion of the convergence of scientific and non-scientific constitution of objects, or on the “theory and for practice” (Leonhard, Liebau & Winkler, 1995).

These attempts at separation and unification (happening at the same time) have been starkly reflected in educational science since the end of the 1980s. The *Master*

Narrative of the epistemological, historical, philosophical and sociological self-the-matisation arose to point to the difficulty of the “double placement” between scientific expectation and practical relevance (Fuchs, 2007, p. 69) Particularly with reference to allegedly failed aspirations towards harmonisation, such as “action research”, “Marxist educational science” or forms of “critical and constructive educational science”, it is claimed that “there is no possibility of being a servant to two masters without overstraining oneself” (Tenorth, 1999, p. 64). This “fascinating artistry” (Fuchs, 2007, p. 70) is thus described as “structural and functional ambiguity” or “anomaly”, etc. (The terminologies, it should be recalled, are an expression of what is to be stated from an ideal *unambiguity* from deviations or in other words: *contamination of a puristic condition*.)

The following three perspectives regarding the dual constitution of objects dominate the debates of research related to education science:

- *The ultimately irreconcilable difference*: “Whatever one thinks about solutions to the scientific problems of education science, I find it pointless to explain the social function of education science in such a way that its central research problems are dealt with at the same time” (Tenorth, 1999, p. 64).
- *The mutual irritation* of dichotomous determinations of aims, which can neither be solved in one direction nor the other, is what is really indicated by the modern form of scientific self-description (cf. Kade, 1999).
- *The dual membership*, often dynamically described as oscillation, by which “different codes must be kept in operation (e.g., true/untrue, communicable/non-communicable, good/bad), but which cannot mutually support each other, but rather overwrite each other each time” (Fuchs, 2007, p. 76).

What does one really know if one knows that? For example, that knowledge from PISA like that of a Christian pedagogy is part of the processing of a diverging or reciprocal or irreconcilable binary logic. That is a lot – and a little at the same time.

My polemic evidence works on the assumption that in addition to *establishing* a “structural plural referentiality of education science discourses” (Keiner, 1999, p. 71), which demands something “acrobatic” of education science, research questions arise: namely how the acrobatic occurs in the “intermediate realm” (Keiner, 2005, p. 166). Scientific research does not have the objective of only meta-analytically stating the difference between truth and utility and as a result handing it down as a kind of *lingua franca* of the meta-discourse about educational science (which on the one hand accounts for sufficient differentiations, and on the other hand is enough to be understood), but also to show which solutions education science communication creates for their reference problem – so how in methods and

research concepts the poles are related, combined or placed in opposition to one another and what effects this produces.

I want to take a conceptual approach to this. In order to make the operative handling of the difference in education science empirically observable, my thesis holds that a heuristic is required, which in relation to dualities is not content with the above-mentioned variations of antagonism or incompatibility or exclusion. Additionally, it could be helpful – without thereby levelling the differences – not to proceed from the premise of science and society standing in opposition to one another, but rather from the premise that scientific principles of knowledge and societal criteria for utility determine and permeate each other.

Therefore, I will (in the context of being inspired in a manner pertaining to differentiation theory by self – and hetero-reference) argue in a communication theoretical way (cf., instructive Meseth, 2016).

Clues

Hetero-reference (external performance expectations) as a genuine component – and not contaminant – of the self-reference of science (inner function expectations)

In this light, the question (very generally formulated) arises of how communication of the system truly/falsey reproduces science over its conductance. And it is (keyword – self-referentiality) scientific communication itself which decides which knowledge is processed as true and which as false. “The binary code thereby acts as a pointsman: that which is rated to be true is guided in a promising direction by scientific communication; untruths, contrarily, are shunted off to the side” (Schimank, 2012, p. 116).

Admittedly, it is of crucial importance for the structural formation of scientific communication that programme and organisation expectations do not arise without contact with their environment. In the scientific system, especially for the functional expectation of science (truth), the societal performance expectation for science (utility) is made a subject of discussion (cf., Luhmann, 1999, p. 640). Politics, business, mass media, sport or even the education system place performance expectations on the scientific system and the diverse technical, political or practically/professionally-oriented considerations of usefulness are always already *implicit* in scientific communication as *excluded* societal expectations. That is to say, societal performance expectations do not intervene in the scientific

system from the outside. They are a parasitic part of the system that converges truth into conductance there and is used for individual communicative purposes (cf., Kaldewey, 2013, pp. 170–176). Not only is that external expectation always included via exclusion, thus viewed, discourses about usefulness first *make possible* discourses about truth and they do not impair them per se.

That scientific communication is “formatted as a practical discourse from scratch” (ibid., p. 23) can be moved along.

Knowledge and Object

In the scientific system, communication is bound to an object. That is also the case elsewhere (such as in the environment), but as a general rule, scientific descriptions build a distance between their theoretical references and methods precisely for that reason (education is, e.g., handled differently in the scientific context than in that of mass media).

Nonetheless, the reference objects constructed in *separation* always bring along *parts* of the oppositions (that education is spoken of differently in the scientific context than in others is first described by the difference). “Whoever always observes takes part – or they are not observing” (Luhmann, 1998, p. 86).

The description and the described are thus at the same time different and identical. They enter into an interrelationship that makes it apparent that knowledge and object, self and external reference, truth and utility are circularly related to each other in varying doses.

This can be further appreciated if one more closely determines the difference between theory and method.

Theory and Method

Theories are, in the view I represent, the window to the external world. They are statement systems affected by science which are connected with the outside via reference to an object (e.g., if *pedagogical* conditions and procedures are systematised in a manner pursuant to *education science*). Theories are thus never constructed without complete overlap with the outside. On the contrary: they are always in some form of relationship.

Methods, on the other hand, are more narrowly related to the key value of truth and bring the difference between science and environment into focus. Ostensibly then, methods of scientific communication deliver invariant material and – as measured by theories – material that is independent of objects. But despite its distance to concrete external references to objects, methodological packages always imply an access to the nature of the external, fully with the intention of

being able to make general, legal statements about it. Thus, here too, convergence and divergence do ultimately go hand in hand.

The concurrency of orientation towards truth and utility, in which orientation towards utility evolves into the communication of truth, and orientation towards truth evolves into the communication of usefulness is also shown in connection with theory/method.

What does one really know if one knows it, to once again bring up my exploratory question? Science especially defines itself when it separates itself from its outside, from the other and the others. Precisely *by means of* the external does it reflect its objectives and is thus reproduced as genuine societal functional interaction. Thus, perhaps one knows that: with the knowledge that practical discourses are not contaminants but rather structural aspects of the system itself, new relations between the dualities come into view. The difference appears as a constitutive and productive moment of unity of scientific communication.

Possible empirical applications of this perspective in theory, which conceptually equates discourses on autonomy and utility as possible self-descriptions of education science and thus observes education science as a discursive construction of a science relevant to society

With this backup, a differentiated view of the programme structure related to education science arises: namely, how communication related to education science brings its conflicting poles into a “win-win situation.” (Kaldewey, 2013, p. 22). I want to indicate four research perspectives:

a) **Levels of science and education policy:** Against the backdrop of the current shifting of boundaries which bind the scientific production of knowledge to industry and politics more innovatively and narrowly and organise them in an economic, entrepreneurial modus, the question again arises of how communication relating to education science fixes its reference problem of orientation towards research and practice under such changed basic conditions.

The heuristic that has been developed makes it possible to devote oneself, e.g., to the identification of beneficiary-beneficiary modes instead of the usual one of that of perpetrator-victim relationships. Thus, it can be empirically seen how and for what reason “the autonomy of science is often legitimised via its practical relevance and its practical relevance in turn is explained via its autonomy” (Kaldewey, 2013, p. 411) also in terms of the “New Production of Knowledge” (Gibbons, Nowotny & Limoges, 1994) in *mode 2* (Nowotny, Scott & Gibbons, 2003).

b) Levels of scientific organisation: This can be followed in various scientific fields with approximate regard to organisational strategies. Here a new “peaceful coexistence” of competing logics is to be seen (ibid., p. 22) if in the mode of science (code true) political operations (code powerful) are united with economic (code profit-maximising) and moral (code good) ones. With the result – e.g., as is the case with academic internationalisation strategies – of codifying *power retention* in relation to the *lucrative* search for the *truth* of the *good* as the objective (cf., Binder, 2016).

c) Levels of theory formation with respect to education science: In any case, that is probably the main application area. Various offerings of meaning as they are created or rather illuminated by communication as it pertains to education science become analysable under different circumstances.

It can thus be observed, e.g., in various forms of justification for modern pedagogy (non-prejudicial) how the question of usefulness serves the question of truth and vice versa. To bring the example of one of the most well-known theory-building figurations: *Precisely by and through* occurring in protective “advocacy for their clientele (the students) with respect to societal demands deemed to be precarious” (Thiel, 1999, p. 160) will the “problems which society has brought upon itself” be dealt with – and indeed “in the medium of scientific rationality, with empirical research, theoretical criticism and the discussion of action alternatives” (Vogel, 2016, n.p.). In short: the external expectations are rejected in order to fulfil them.

d) Levels of education science methodology: Also in the context of the scientific methods it can be analysed how the formal procedures of methods (self-reference) and the various normative charges of the societal constitution of the objective (external reference) can be related to each other in such a way that they can become productive. That is the case, e.g., when in biographical research pertaining to education science, which is unquestionably part of scientific empirical research, the determination of what ought to be identified in the biographies in a scientific-methodological manner comes from external referential pedagogical argumentations. The *scientific* processing in the coding of true/untrue takes place in an *everyday pedagogical* concept of education that derives from a coding of good/bad. An ostensibly practically more satisfying, more personally oriented concept of education – and thus not a frowned upon clinical one – becomes without any great upheaval simultaneously the *tool and object* of theoretical and empirical work (this hybrid seems to guarantee a high degree of legitimation and dignity). Here too, the paradoxical yet profitable constellation is shown: the inner expectations are outlined and then satisfied by the external expectations in order to then outline and satisfy the external expectations. This clearly indicates to what extent

science is a “knowledge-advancing enterprise of society” and not a “free-floating world observer” (Luhmann, 1998, p. 7).

Fundamental tensions structure each value system (Weber), each function system (Luhmann) or each social field (Bourdieu). Thus, the “differentiation, stabilised and varied over centuries, between autonomy and practical discourses” appears not as an enervating contamination but rather as “tension that has made the differentiation and stabilisation of the scientific system possible at all” (Kaldewey, 2013, p. 414)

I shall forego further examples. I merely wanted to express that in the light of daily scientific practices, the productivity of processing of self and external reference can hardly be denied. Every day management of paradoxes is in effect. Paradoxes are constantly distributed as if on a “shunting yard” so that the various operations are no longer bothersome (Paetow, 2004, p. 136), even more: they stimulate. Even if the doubling leads to conflicts of interests in individual cases, even and precisely that makes it advantageous for education science to level off again thereupon (the debates about “economisation of education” are eloquent witness to this).

The irritations, aberrations, areas of tension, antagonisms, antinomies, etc., which are widely cited everywhere, do not appear as an anomaly in the theory strategy just presented, which conceptually equates discourses on autonomy with discourses on usefulness as possible self-descriptions of education science. They are much more the constitutive operative motor of science.

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