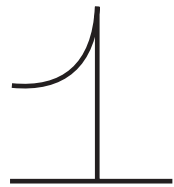




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Věnování

Dedication

Toto číslo je s úctou věnováno prof. Tomáši Kasperovi, šéfredaktovi časopisu *Historia scholastica*, k jeho životnímu jubileu.

Redakce časopisu Historia scholastica

This issue is respectfully dedicated to Prof. Tomáš Kasper, editor-in-chief of *Historia scholastica* Journal, on the occasion of his jubilee.

The editors of Historia scholastica

Subjectivation through Structural Coupling – The Emergence of School Laggards and Deficient Pupils¹



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Abstract This contribution explores how practices, concepts, and ideas about including and excluding pupils in schools are connected to different arenas of knowledge and how their inter-connectedness produced specific subject positions for pupils. By applying Niklas Luhmann’s concept of structural coupling as an analytical approach this article discusses the problem of non-promotion and the emergence of the “deficient child” to grasp the connections between the different social systems involved in these processes. Based on two case studies that deal with specific iterations of efforts to alleviate non-promotion, the contribution exemplifies how structural coupling can help to identify connections between and resulting activities in different social systems.

Keywords structural coupling, subjectivation, Prussia, USA

¹ This article was inspired by materials and sources collected in the research project “The Bureaucratization of Groupings. Local and Transnational Dynamics of Innovation in the Introduction of Age-Graded School Classes in Compulsory Education (Prussia, the USA, and Spain, ca. 1830–1930) funded by the German Research Association. The authors owe important input to Prof. Dr. Marcelo Caruso (Humboldt University Berlin).

Introduction – Subjects within and between Systems

In their introduction to a recent study on the history of pedagogical pupil selection, Reh et al. address the connections between the emergence and establishment of an inclusionary school system around the world and the connected occurrence of practices, concepts and ideas about differentiation within the pupil population (Reh et al., 2021). Though the authors, who exemplify the current state of the research literature, are aware of the “entangled developments” (Reh et al., 2021, p. 11) of different administrative, scientific, and practical developments, they do not explain and interpret this specific entanglement in more detail. In their understanding those processes occur in parallel, enhance each other but are not deducible from one another. They happen simultaneously but are not triggered by the same cause. So, the questions remain: What connects them and what explanatory possibilities are there to discuss their connection? Though it is quite certain that causal relations miss the point, how else can we analytically grasp the parallel occurrence of new processes, terms, ideas, or problems?

In this contribution we aim to describe in more theoretical depth the specific problem of connectedness and propose to use the concept of *structural coupling* as an analytical tool to grasp the connections between the different social systems, applying a terminology borrowed from Niklas Luhmann.² Structural coupling neither means causal connectedness nor parallel and seemingly neutral simultaneousness, but instead the term frames a connection as an inter-social or inter-systemic reactive process. In our example, structural changes and inscribed differentiation processes produce an administrative problem within a social subsystem, which is perceived as an irritation in another subsystem, the social field of school practice, and begins to influence subjectification processes taking place there.

2 Luhmann (1992). Structural coupling here being different to the older and much more commonly known and used concept of *loose coupling*. We will discuss this distinction in more depth within the paper. Both forms of coupling can be understood as a broader concept of “productive coupling” which is discussed as a central part of western modernity (Forster, 2017).

In this perspective, subjectivation is neither to be explained by professionalization or professional differentiation, nor as an innovation of one or more key thinkers within an existing or emerging social system. Moreover, it does not arise from the constitution of subjects themselves, nor from distinct external social processes (like modernization or urbanization) as an abstract umbrella-term, or from epistemological shifts. All these explanations may help to understand the broader constellation, yet we argue that the new type of subjectivation is to be understood as an unintended side effect of differentiation processes within social systems and their observatory practices. We seek to explain the occurrence through inter-systemic processes, understanding specific typologies of children as a concrete result of mutual observation between different, but connected, social systems.

In the following, we (1) will start by introducing the terminology used by Luhmann and explain the position of structural coupling within his theory, before addressing certain limitations and necessary complements to the specific workings of interactions between systems that better grasp the complexity of these processes, here referring to Caruso's framework of "culturality" (Caruso, 2013). We will then (2) apply the terminology to two case studies, showing how it allows to understand the simultaneity of coupled phenomena without reducing them to a singular development within one system. To exemplify these processes, we focus on the problem of non-promotion and the emergence of "laggards" and "deficient pupils". Non-promotion represented a continuous topic in elementary schools throughout the 19th and 20th centuries, but around 1900 it became a relevant problem in city school systems, and was discussed as a pressing issue and social danger, to which some cities reacted with administrative reform initiatives. The discursive interactions in this time can be grasped with the term of structural coupling. In parallel to the ongoing social differentiation within the structures of schooling, the system of school administration saw changes, too. These processes, mutually perceived as irritations in the respective systems, were responsible for the emergence of the new subject positions. The subject position of a "school laggard" in this view is the result of the simultaneity of irritation. Lastly, (3) we

will discuss this approach in light of the history of subject positions of deficient pupils within the broader scientific discourse, arguing for the need to give more attention to processes of inter-systematic and inter-discursive connections as well as to social processes and the role of knowledge production within these processes.

1. Coming to Terms: Functional Differentiation, Irritation, Structural Coupling and Culturality

Before delving into the systems theory approach, we would like to offer a few definitions and clarifications. Our paper is situated between different historiographic fields. For one, it addresses the question if and how “different” pupils should be integrated into the standard school structures – a topic that has a long tradition in the field of special education. For us “inclusion”, and its historical roots of “exclusion”, are less of a focal point for the way we think about the theory and terminology of such processes or the specific qualifications or institutional histories of the involved actors (Garz, 2022; Ellger-Rüttgardt, 2019; Moser, 2009; Schwerdt, 2019). Instead, we are trying to come to terms with the question of what happened so that the children in question became a “problem” and a specific profession dealing with this “problem” could emerge. As we argue the emergence of a specific subject position and specific subjectivation procedures (as Reh et al., 2021 describe them) can be explained as a result of systems’ interactions and connections. Subjectivation means the creation of subject positions within permanent cultural production (Reckwitz, 2008). The interactions between the systems are also included in such cultural productions. Social systems as abstract descriptions of a social reality organize the social in which the (re-)production of subject positions constantly takes place. Social subject positions are realized through both self-subjectivation as well as via external subjectivation processes. School children may be socially labeled as “anormal” while they may also conceive of themselves as “anormal”. Subjectivation consists of both processes.

The model of social systems (which we follow here in the sense of Luhmann and not in the sense of Parsons) is a structuralist way of conceptualizing the social. A social system is an interpersonal behavioral

structure ('structure') whose parts are mutually dependent ('interdependence') and which interact with each other within the framework of mutual functional expectations. The theoretical framework can be used to describe all forms of sociality (e.g. relationships between two people, families, organizations, functional systems, society), although here we tend to use social systems as overall social systems. That being said, our case study could involve specific systems of all levels and sizes, but for this paper we focus on systems that interact in a particular time frame regarding the discursively set question of the "deficient" child. In the case of Mannheim, these systems are represented by the city administration and the pedagogical profession, while in the US case, aside from the municipal administration, an actor from the realm of the economic system is involved. The starting point that decided which systems to consider is the structural coupling that we observed and that we will come back to.³

With his approach to systems theory Niklas Luhmann (1927–1998), one of the most pertinent thinkers in the German social science discourse, presented an updated version of the idea of a universalistic theory for all areas of the social. Based on concepts coined by Talcott Parsons, this theoretical approach has received wide reception in academia in general, but also specifically in educational sciences.⁴ In this approach, the social is a constellation of different structures, referred to as social systems, that are results of differentiation and specialization. Social systems can range from small social units like children to

3 Within this systems theory perspective the specific persons and their capacity to act are a less often discussed area. The systems are favored over specific individual actors, so that an explicitly prominent figure like Anton Sickinger in Mannheim seems to represent a kind of contradiction. However, although social systems limit the scope for action in advance, this is by no means necessarily deterministic. As a member of the city school board, Sickinger had a certain leeway for maneuver and remained successful and creative in his actions within it, with the consequences discussed here. But Sickinger is only the visible speaker of a municipal administration that cannot be reduced to this one actor. On the topic of the voids of personal activity within systems theory, see Groebner (2015).

4 The most coherent version and his main work being Luhmann (1997).

conceptual structures like the idea of childhood. In this framework, the solar system, biological cells, the human being, a family, an organization, a state, but also machines and computer networks could be understood as systems, which are always connected to and embedded in other systems. Most known is Luhmann's idea of autopoiesis, which adds a concept about how social systems develop and change, with which Luhmann introduced a hitherto missing concept to grasp the processual nature of the social.

Being discussed widely, his critics mainly commented that the idea of autopoiesis alone would not suffice to explain social change. There were things outside of autopoiesis's explanatory power.⁵ Clearly there were interactions between and within different (sub-)systems that called for an adjustment of systems theory, which Luhmann described with the terms "operational closure" und "cognitive opening" to grasp the relations between different autopoietic systems. In Luhmann's renewed concept of modern societies, the social is to be understood as a structure or system that consists of autonomous autopoietic sub-systems defined by their distinct social functions, which each system addresses with specific internal operations. Luhmann calls the processes leading to a system consisting of systems "functional differentiation" and the fact that each system operates in terms of its own function "operative closure". Each system is centered around its core operation or core function which the system contributes to society.⁶ Social systems are connected with each other through exchanges that rely on the fact that each respective system has something the other

5 Luhmann himself outlines the limits of the concept: "In view of an extensive and quite critical discussion, it must be pointed out above all that the concept of autopoiesis has little explanatory value. It only requires that all explanations have to be based on the specific operations reproducing a system – the explained one as well as the explaining one. But it says nothing about which specific structures have developed in such systems due to structural couplings between system and environment. It does not explain the historical system states, from which the further autopoiesis starts" (Luhmann, 1997, p. 66). Unless otherwise indicated, all translations are by the authors.

6 See Luhmann (1991).

systems necessarily do not have or even lack (Luhmann, 1992, p. 40). Though closed in respect to their concrete core operations, on a broader scale all systems depend on the functions and workings of other systems, which in Luhmann's terminology serve as the "environment" to the system itself and provide "input" to the (general) system. This input is integrated into the system through operations of "observation" which forms part of the "cognitive openness". As the systems are connected with each other throughout an overarching system, they depend on inputs from one another and therefore observe the input and developments in other systems, thus exhibiting a "cognitive openness" for the "environment". Centered on its core operation, the system interacts with influx coming from other systems, which it observes in its internal logic and terminology and understands as parts of its operation. Luhmann states:

The reference to 'the environment' does not contribute anything to the system operations. 'The environment' gives no information. It is only an empty correlate for self-reference. If, on the other hand, system-to-system relations are involved, designable entities appear in the environment. Here, too, the system cannot operationally transcend its own boundaries (for otherwise it would have to operate in the environment), but it can observe, i.e., designate, which specific facts in the environment (here: other systems) are relevant to it in a specific way (Luhmann, 1997, p. 609, translation by the authors).

In other words, each system operates and interprets changes within its own logic. For example, if the system of schooling is understood as a distinct social system, in which teachers aim to transfer knowledge to the pupils, the core operation here would be teaching, and the goal would be the pupil receiving this knowledge. In theory, this is what the teacher is focused on, but the pupils the teacher deals with are not created by the teacher along the lines of his designated operation – they are rather brought to the teacher from other social systems. This represents the idea of functional differentiation, with the teacher being

focused on teaching. Still, the teacher observes how other systems work, as pupils are coming from and going to other systems before or after school. When observing those pupils – in theory – the teachers perceive them according to the parameters of the teachers' own core function and operational understanding.

If the “pupil material”, as Sickinger (1899) calls it, changes or the respective other social systems that work with the pupils after the teachers achieved their teaching goal and the pupils have left school are altered, then those changes might be observed by the teacher, the teaching profession or more broadly speaking by the system of schooling. If from this observation specific activities and alternations in the functioning of the system's core operation are discussed, then we have a case of what Luhmann labels as “irritation”. In other words, one might speak of irritation if a system identifies something “new” and “different” as relevant within its own system-specific understanding and modifies its own functional activities. If an observation is present and relevant in two subsystems' operations, then one can speak of “structural coupling”. Usually both systems function as isolated systems, producing more and more inner differentiation, so to speak new communication, which occurs as an outside effect for other systems that themselves independently produce more and more communication. Luhmann defines this communication as “analogue constellations”, denoting communication that functions analogously, without irritations, and that continuously references mostly the values and understanding of the communicating system itself. Structural coupling occurs when certain analogue communications are transformed into “digital constellations” meaning that they are not independent and “parallel sequences”, but rather communications discussed in both systems as “discontinuous sequences”. Here, one system takes up the communication from another system by observation and transforms the external communication into its distinct system's internal code. Thus, external information is reflected within the framework of internal rationalities, it is digitalized. Such a process is to be understood as structural coupling, which denotes the way the environment and system are intertwined with each other (Luhmann, 1997, pp. 92–119). This structural

coupling not only involved moments of inclusion but also exclusion processes (Luhmann, 1997, p. 103). In practical terms one might understand structural coupling as an instance when a specific aspect gains attention in two distinct systems. Structural coupling occurs as a reaction to moments of irritation; when a system's established procedure is disturbed or in danger of being disturbed due to external influences, e.g. by something in the system's environment. It is this disturbance that can be understood as an "irritation".

An example can help to show the connection to the focal points of this article: If the pupil population exhibited distinctly new behavioral patterns that seem to endanger the commonly used teaching practices, this would cause irritations within the system of schooling, potentially resulting in the system attributing these moments of irritation to the environment of the family. Meanwhile, if within the family system new behavioral patterns are observed that might endanger the maintenance of the generational sequence of the family or a desired function of the family, this interference would stir irritation within this system, which might also be attributed to the system of schooling.

Though the specific forms of how irritations can take shape are not clearly established, there seems to be some form of medium, more specifically a concrete or abstract object, term or thought that expresses this irritation. In the example discussing the relation between the system of individual consciousness and society, Luhmann chooses language as a medium which is situated in both systems. Luhmann attempts to describe the emergence of coupling processes and situates them as resulting from already existing core codes of the different systems.⁷ However, distinguishing these core codes is a difficult task as they hardly explain all interactions between different social systems. As Caruso (2013) points out, Luhmann's attempt to explain the func-

7 Following Luhmann, a code is a binary differentiation a social system would create as its respective main function. The school system would have the core code qualified/not qualified. As we will discuss, we don't use the code model in the following, because in the form of an abstraction it is less helpful for our analytical purposes.

tioning of the social system of education falls short of incorporating the complex interplay between the systems and their autopoietic differentiation. Neither a clear definition of a medium, nor a reconnection or re-convolution towards a code or media alone can grasp the full picture. Instead, Caruso proposes to invoke the concept of “culturality”, meaning a set of contextual forms that structure how irritations are received and interpreted (Caruso, 2013, pp. 52–53). To us, this concept seems more useful for looking more detailed into how irritations work and how they were perceived to better understand how structural coupling works and how observation processes shape system differentiation. With these considerations in mind, we can see how structural coupling processes arise from irritations that lead to the establishment of a consequential entanglement, which in the following produces further operations in both systems, each respectively following their distinct functional logics.

This leads us to the last concept we would like to consider. In the process of mutual observation, the systems frame and create an understanding of their new constellation, offering different interpretations of the situation. Luhmann would argue that they do this in their respective own logics bound to their “code”. But as Caruso and others have shown, Luhmann failed to successfully identify a single core function and core code through which the success of a function can be measured (Caruso, 2013; Hollstein, 2011). Instead, multiple functions and multiple codes are discussed simultaneously. Further, actors are always part of different and multiple social systems and thereby interact in different settings and operate with different meanings. A teacher might also be a member of a family, and a mother might also be a medical expert and thereby able to work with different codes and meaning systems. What the idea of “culturality” additionally denotes is that it might not be necessary to subsume all debates and reactions labelled as “irritations” under a specific code and logic, but instead acknowledge that in such instances a myriad of cultural understandings and meanings are possible, with irritations enabling situations that are in a certain way open towards further interpretations. In this example, the new behavior of the pupil / child is the medium in which the system of the family

and the system of schooling are structurally coupled. The information / input that is discussed in the systems has different meanings depending on where the discussion is situated.

In this sense, distinct social systems are differentiated by systematic operations that can be connected via “irritation” in the form of structural coupling and can be displayed in different forms of intensity. These forms usually become visible when similar media are discussed in different systems. Those discussion are situated within a field of “culturality”, meaning that though their systematic place is located within a system order, logic and functional constellation, the interpretation of the “irritation” is not limited or determined but rather pre-influenced by “culturality”. “Irritations” hint at the open-ended status of system differentiation processes, which lie beyond the stricter borders of the rationality of distinct systems. Empirical research and case studies allow for a better understanding of complex interplays within system differentiation and for a better understanding of processing “irritations”. Structural coupling then describes the interactions between two systems about terms and occurrences that play a role in both systems and alter them.

One does not have to follow Luhmann’s theoretical assumptions, yet borrowing certain terminology allows for a more differentiated understanding of educational processes. The example of the “invention” of the “laggard” or “deficient child” represents the focal point of this study, with the current discourse being focused on describing when and in which way specific educators, institutions, or professions contributed to the creation of the “deficient child”.⁸ The existing historiography about the construction of the deficient child is strongly influenced by scientific trajectories and traditions that focus on research from a single discipline (Reh et al., 2021; Schwerdt, 2019). Interdisciplinary questions on how different knowledge arenas relate to each other were more seldomly posed. This might be grounded in the educational

8 Luhmann as well discusses “the child as medium” within the educational system as a more code-related line of thought that does not see the child as a medium within an irritation process (Luhmann, 2006).

and disability studies' own characterization as social systems and professions that struggled to integrate interdisciplinary exchange and connections. With Luhmann in mind one could frame these observations as the systems operating as autopoietic structures reproducing their respective work, producing their respective knowledge, and integrating irritations from the surrounding environment as input into their operations. But as we argue those irritations and integrations were not explicitly discussed and researched but their internal systematic framing was researched and disseminated.

In the following, we will describe such a coupling process by looking at two distinct case studies from Germany and the USA that show some similarities. The two chosen examples are situated within the pedagogical discourse of their times, and represent two widely received cases: Mannheim being maybe the most popular case of city school reform in the first quarter of the 20th century in Europe, where the administrative pedagogical liberties allowed for significant school reforms (Geiss, 2014, pp. 197–218), while New York City was especially significant as a center for reform approaches and discussions on school children because of the actions of the city school superintendent William H. Maxwell (1852–1920), who represented a major actor in the discourse. While Mannheim and New York City can be considered frontrunners in education matters around 1900, other cities and cases also experimented with classification and selection procedure (like Hamburg and Charlottenburg in Germany or Boston and St. Louis in the USA), but the two selected case studies represent innovative contexts. The case studies allow us to trace (1) how two distinct systems – the system of school administration and school practice – are intertwined in processes of system differentiation, (2) how the high numbers of pupils that did not graduate from the final grade of elementary school are discussed as an irritation in the different systems, and (3) how structural coupling comes into being and is interpreted in the sense of “culturality”. The “deficient child” appears as a distinct part, one could say sub-genre, of the school population and becomes the medium which makes the culturality of the distinct systematic procedures visible.

2.1 Case Study 1: “Backward Children” in New York City’s Public Schools

For the case study of New York City, we find that the problem of “retardation” and so-called “backward children” was highly prevalent at the beginning of the 20th century. The high non-promotion rates of pupils in the city’s public schools and the mismatch between the pupils’ ages and grade levels that resulted from them not moving on to the next grade as scheduled by the curriculum were found to be an issue from the perspective of the city’s school administration. When City Superintendent William H. Maxwell, among other school administrators, noted the disparity in the mal-adjustment between the grades and chronological ages of the pupils, no thorough investigation of this matter had been conducted thus far. As Maxwell kept recording these disparities in his annual reports of New York City’s school system, the need for a study of the underlying reasons became the basis of an investigation conducted in 1907, which was funded by the Russell Sage Foundation and set out to study the issues linked to the progress of school children through the grades of the school system (Ayres, 1909, p. 2).

In terms of the categories implied by the approach, we can see a functional differentiation between the municipal school system as a separate administrative branch, which represents the education system. This system is met by a part of the economic system in the form of a private foundation, in this case the Russell Sage Foundation, that financed the realization of the “Backward Children Investigation”. Aside from the foundation another part of the economic system also comes into play with the system that collects and allocates funds for education, and ultimately seeks to produce productive members of society through schooling.

The study drew on materials gathered from school records from New York City (among these were records of 20,000 children in fifteen schools in Manhattan), the medical inspections of schools, as well as findings and practices from other cities throughout the United States (Ayres, 1909, pp. 2–3). In this study, medical and psychological knowledge was combined in the interest of the economic system, which

aimed at producing qualified members of the work force in an efficient time frame as reflected in the curriculum.

The investigation conducted by Ayres and his colleagues caused an irritation with respect to the school system since it thoroughly looked into and addressed an issue that school administrators had noticed previously, but could only circumscribe as a “mal-adjustment” between the pupils’ age and grade level, meaning that most pupils’ ages were too high for the grade they were grouped into (see e.g. Annual Report, 1904). Now, as we would argue, an instance of structural coupling occurred when the “retarded pupil” was created as a label that described the non-adjustment of pupils to the established design of schools. This label was identified through discussions of the findings of medical inspections and the investigation of pupils’ records. The category of the “retarded pupil” connected the education system with the economic system through the identification of the characteristics of a phenomenon that described a large proportion of the school population at the time.

This new category in turn influenced the vast expansion of psychometric research pertaining to the “retardation” and mental abilities of school children – a research field that started to blossom in the United States in the first decade of the 20th century. Aside from sparking a growing interest in psychometric studies of the school population, in terms of systemic culturality, the category of the “retarded pupil” initiated interpretations and metaphors from different perspectives. From a pedagogical perspective, the up to this point only vaguely determined mal-adjusted pupil could now be grasped as a “retarded” child whose chronological age exceeded the grade level standard. Hence, the category was now described as a delay in the pupil’s development, which could be caused by different circumstances examined in the ensuing studies. The studies on retardation were widely discussed in various types of publications such as in periodicals targeted at (elementary) school teachers. After the publication of Ayres’s study *Laggards in Our Schools* (1909), we can observe how this topic was taken up in teachers’ journals. In the wording used by teachers and school administrators, pupils who are mal-adjusted with regard to their actual grade levels are described as “children who are behind the schedule set for

them” (Lurton, 1911, p. 336). This implies a delay on the pupil’s part with regard to the standards set by an authority that creates norms for all children of school age.

From an economic perspective, “retarded pupils” initially became a problem when they left school without completing the minimum number of grades – that is, when they dropped out of school without having finished eighth grade. What is more, having pupils repeat grades elevated the costs for the provision of public schooling, especially since the group to which the label of retardation is attributed consisted of 30–40 percent of the pupil population in most cities reporting their retardation rates. Ayres estimates that the repetition of grades costs about 27 million dollars per year, a large amount of money spent on “this wasteful process of repetition in our cities alone” (Ayres, 1909, p. 5). Hence, from an economic perspective, retardation represents a two-fold burden for the education system: Pupils who have to repeat grades multiple times are more likely to leave school before the completion of the standard of eight school years and cannot acquire the skills necessary for joining the work force to become productive members of society. Moreover, from an economic standpoint a high percentage of retardation puts a financial strain on the cities’ education budgets, which were funded through taxes.

When we turn back to pedagogical discussions it is interesting to note that superintendents across the country began to design their own studies of retardation in their city’s school systems and tested specific measures of dealing with non-promotion. School teachers and principals noticed that with respect to the promotion of pupils too much emphasis was placed on “memory proficiency, especially in the upper grades, and too little credit was given to children’s mental ability, general interests, bodily conditions, and possible improvement during vacation” (Mirick, 1911, pp. 63–64). Thus, they found pedagogical reasons for promoting pupils that went beyond memorizing the curriculum content. Educational professionals also addressed the increased costs produced by “laggards”, but reframed this as an investment in the children’s future, which Superintendent Lurton of Anoka, Minnesota, so aptly states by describing that the true loss, however, is

the spiritual one which refuses to submit to statistical investigation. The retarded pupils personally lose that fine spirit of initiative, of progress, of growth, of self-reliance, and of eagerness to achieve, which constitutes the chief glory of youth, and which sends him from school into life an effective member of society. By allowing him to become retarded that birthright of the American boy is traded for the pottage of idleness, failure, and self-distrust (Lurton, 1910, p. 464).

An extension of these remarks, and a commonly employed practice, was the promotion of all pupils regardless of their achievements. For example, in Indianapolis, Indiana, schools allowed for a trial period of six weeks after having promoted all the school children so that they could secure a spot in the next higher grade, even if their achievements at the end of the previous school year would have not indicated their promotion (Himelick, 1911, p. 316). In Boise, Idaho,

all grade standards are ignored in permitting weak pupils to advance, but the normal pupils treat these special cases with sympathetic toleration and do not relax in their own efforts because their handicapped companions are not held to the standard of work required of themselves. Standard tests of efficiency in which the work of these specially promoted pupils must be tabulated with the class demonstrate that the work of each grade is more thorough than it was three years ago before this policy of promoting the slow pupils had been generally adopted (Meek, 1914, p. 424).

The superintendents of different cities reported that pupils “on probation” actually performed quite well – some on their own without extra help, some with support (Himelick et al., 1911, p. 322) – and thus concluded that the question of determining whether a pupil should be promoted to the next grade or not requires experienced supervisors represented by experienced teachers and principals (Himelick et al., 1911, p. 324). Hence, although the research conducted by actors from the economic system can provide answers to the question of retardation,

teachers and other professionals from the education system still took it upon themselves and ascribed the skill to determine who could be promoted even though their performance in schools might not match the standardized requirements prescribed to their group of professionals in the curriculum.

Lastly, if we follow Luhmann in his categorization of the child as a medium that serves as a connection between the education system and the other social systems, in the case at hand we could define the “retarded child” more specifically as a medium that engages with the different systems and brings them in contact with each other.

2.2 Case Study 2: Pupil Categorizations as the Start of the Mannheim System

In the following we will look at the fast-expanding city of Mannheim in the German region of Baden. Since the late 1860s there were significant curricular re-constructions in the school system. As a result, in most schools of the then centrally-organized structure only a comparably low number of pupils graduated from the highest classes of the centralized eight year-long courses. This failure resulted from different factors, such as an increased influx of workers in the city. This issue was addressed as one of the first issues when Anton Sickinger (philologist, 1858–1930) was appointed new city school council in 1895. His reform approach, the Mannheim model, is what made him widely popular not only in Germany. The core innovation, as we argue, was the proposed categorization of pupils.

Sickinger first collected different data on the school results that he published in the city’s annual administration report from 1895 onwards. Having aggregated some data on Mannheim and gathered some more from other cities for comparison, the first comprehensive publication of his reform attempt was issued in 1899. The first implementations of his system in schools started in 1901. The proposal was first discussed by Mannheim’s administration, and then with teachers, before it was implemented. Once realized, it received wide attention at public congresses and in the teachers’ press and also within the broader public. Here we can see how in the process of creating a distinct

administrative model for organizing the city's school system city council Sickinger created an attributable identity that he forms, promotes and legitimizes by using statistical findings (1899). Sickinger though was not a teacher anymore, he was part of the city's school administration, hence the whole agenda setting can be understood as a process of structural coupling.

In the historiographical discourse, the Mannheim System is widely noted as part of a history of special education (Ellger-Rüttgardt, 1980; Geissler, 2006; Möckel, 1988; Noll, 1985; Reh et al., 2021; Schwerdt, 2019) but these studies are less concerned with the question of how non-promotion could be declared a problem and with which terminology it was discussed. The fascination with the reform blurred the background of its initiation.

Prior to this administrative reform initiative, Mannheim, as well as other city school systems, could already look back on a long history of differentiation on the level of curricular content and organizational units of pupil groups, generally referred to as classes (Jenzer, 1991; Töpper, 2020; Töpper & Isensee, 2020). Starting from relatively loosely differentiated schools, where classes as well as divisions within classes were an innovative approach to addressing pupils as a homogeneous group around 1800, normal schools and seminars for teacher training were expanded, teacher cooperation within one school was established and classes as units within the school system were implemented. These processes were always accompanied by discussions on how to deal with different ages, abilities and motivation levels of the pupil cohorts and their effects on instruction, the individual pupils and the teacher.⁹ This issue was mostly dealt with by teachers and therefore formed a recurring topic in teachers' discussions and teacher education (Caruso, 2016, 2021). Meanwhile, questions of organization were mostly addressed by the educational administration and handled by different actors (in the sense that they had

9 The most prominent early discussion on this issue is delivered by Graff (1817) and Herbart (1818).

different forms of knowledge and (biographical) backgrounds), making school administration and schooling loosely coupled but distinct social systems. The concrete schooling, its preparation and knowledge being produced and worked on in teacher seminars and teacher handbooks dealt with the classroom techniques, while the administrations continuously specified the curricular structures by developing school systems and teaching plans that consisted of more and more classes, ending with a class structure of eight classes for eight school years. For such complex systems to work it was necessary that the majority of pupils moved in the scheduled timeframe through their school career, which in reality produced the tension between the school practice, where the curricular planning had to be realized, and the school administration where increasingly complex curricular planning was carried out to legitimize the growing expenses.

The newly occurring problem of promotion and its tradition led to a veritable boom in proposals for individualizing observation and measurement forms. During the 19th century there were some discussions, where the idea of A- and B-classes as one example was discussed (Harten, 1891).

Sickinger approached the matter differently, starting from “the empirical finding” (Schwerdt, 2019, p. 112) that too many pupils did not reach the final grade of their school career and thereby only acquired an “unfinished” education. According to Sickinger, the measurements implemented previously did not manage to solve the problem (Sickinger, 1899, p. 14). Instead, Sickinger used the empirical data from Mannheim as well as from other large cities in the region of Baden and showed that the problem was worse in Mannheim than in the other cities. As teachers and the curriculum would be more or less similar, he highlighted the “pupil material” as the crucial issue of the problem of non-promotion. Within this group, he divided the pupils from the different cities into separate subgroups, which he simply pre-defines by using general promotion moments and procedures for the differentiation he proposes:

If the pupils are divided into the categories I. good, II. mediocre, III. deficient, according to their actual ability, which is primarily determined by their natural aptitudes and by their upbringing and care at home, the following may be true with regard to the composition of the pupil contingents of the Mannheim and Karlsruhe elementary schools: The Mannheim school contains a larger percentage of students in the I. category as well as a larger percentage of students in the III. category. (Sickingen, 1899, p. 17)

Sickingen interweaves his axioms about the constitutions of the pupils' abilities with his understanding of organizational structures by which he is aiming to create legitimacy for his reform project. The central act of creating new subject positions occurs as a simple operation of standardization: "If one takes for the measure, with which each of these 3 factors [natural endowment, diligence and the domestic conditions;

Gruppierung der Schüler nach Leistungs- und Bildungsfähigkeit								
I. Kategorie: gut			II. Kategorie: mittelmäßig			III. Kategorie: mangelhaft		
Anlagen	Fleiß	häusliche Verhältnisse	Anlagen	Fleiß	häusliche Verhältnisse	Anlagen	Fleiß	häusliche Verhältnisse
gut	gut	gut	gut	mittelm.	mittelm.	mittelm.	mangelh.	mangelh.
gut	gut	mittelm.	gut	mittelm.	mangelh.	mangelh.	gut	mittelm.
gut	gut	mangelh.	gut	mangelh.	gut	mangelh.	mittelm.	gut
gut	mittelm.	gut	gut	mangelh.	mittelm.	mangelh.	mittelm.	mittelm.
mittelm.	gut	gut	gut	mangelh.	mangelh.	mangelh.	mittelm.	mangelh.
mittelm.	gut	mittelm.	mittelm.	gut	mangelh.	mangelh.	mangelh.	gut
			mittelm.	mittelm.	gut	mangelh.	mangelh.	mittelm.
			mittelm.	mittelm.	mittelm.	mangelh.	mangelh.	mangelh.
			mittelm.	mittelm.	mangelh.			
			mittelm.	mangelh.	gut			
			mangelh.	gut	gut			

Figure 1. Grouping students by achievement and educational ability, by Sickingen, 1899, p. 29.

the authors] can assert itself, and likewise for the measure of the total effect of the 3 factors with the individual child, the three degrees of “good”, “average”, “deficient”, then the main pupil types can be estimated and grouped in the following way” (see figure 1) (Sickinger, 1899, pp. 28–29).

Here, Sickinger creates pupils’ categories and attributes – on a basis of expectations of average pupils’ categories. He then deduces the quantitative percentages of the general pupil population from the promotion rates of the years before: “For the presumed strength ratio of the extended and the simple school divisions, the previous promotion results of the children who left school give fairly reliable indications” (Sickinger, 1899, p. 35). Obtaining and using this data could only be possible due to a well-functioning administration and cooperation with Sigmund Schott, the head of the statistical office in Mannheim.¹⁰ Schott or Sickinger presented their results at the XV. Conference of the Boards of Directors of the Statistical Offices of German Cities (which took place in Mannheim from May 30 to June 1, 1901). It was decided there that non-promotion is to be included as a category in all the city statistics and only from here on was it possible to gather data on non-promotion rates on a broader level. A problem is fostered within the school administration, and the gathering of empirical material is initiated and, as the follow-up discussions until 1914 show, this discussion becomes significant for the general educational discourse. According to Schwerdt, even positions disagreeing with the treatment accepted the setting of the problem (Schwerdt, 2019, p. 112). The administrative operations of book-keeping and comparing data created new knowledge, the “high” and “low-achieving” children and set a process of categorization into motion that, as an irritation, was also received in the surrounding system. In the educational system then, the premise was accepted: the non-promotion rate was too high and prevented predetermined universal education aspirations.

¹⁰ Head of the statistical bureau of Mannheim since 1897.

To create this perception, Sickinger integrates quite a few rhetorical measures, using cultural metaphors from different realms to frame the constellation. First, he promotes the competition with other cities in Baden and especially the competition with Karlsruhe: “Mannheim elementary school ranked last among the expanded elementary schools in the larger towns of Baden” (Sickinger, 1899, p. 1). He continues to frame the situation as a “grievance”, describes the previously undertaken administrative steps towards an improvement of the situation as falling short. He cleverly mixes pedagogical and medical registers: “Those hundreds, even thousands of children were released into practical life with a mutilated and therefore inadequate school education” (Sickinger, 1899, p. 13), mixing the idea of an incoherent school path with the image of an illness. He wants to prevent the “mutilation of the school education” of children who would not reach the end of their school career (Sickinger, 1899, p. 13). The framing of the school system as a “school organism” might be a whole chapter on its own, the same also applies to the “nature of the children”. (Sickinger, 1899, p. 30) He also interweaves statistical terminology into his line of argument: Though normality as a concept in education (normal schools, normal methods) has its own traditions, the idea of a “normal plan target” is a distinct administrative concept. Moreover, Sickinger as well involves pedagogical discursive concepts since he alludes to the core factors educational pedagogical practitioners are confronted with when he describes the categories he proposed: “natural endowments, diligence and home conditions (education and care)” (Sickinger, 1899, pp. 28–29). Yet, he mixes these concepts and aggregates them into statistical categories, an operation that is clearly administrative in nature and not pedagogical. The last reference he invokes is the example of high schools: If it is possible to differentiate school types there, why not in the elementary schools (Sickinger, 1899, p. 30)?

All those steps aim at the discussion of the core administrative function: the planning of the curriculum. It is here where the innovation lies, he externalizes the inadequate function of the current curricular planning with respect to the pupil: “These regrettable results of 26 years of intensive school work are, as is obvious to the layman, due

to the curriculum of the local school, or more precisely, to the disproportion between the natural ability of the children and the demands of the curriculum” (Sickinger, 1899, p. 13). So, the medium that he forms from “factual performances” is the categorizable pupil that is different with regard to his performance and educational capacity. As an administrator, to be able to plan with the children’s “capacities”, he must conceive of these as stable, measurable and calculable. According to his plan, the pupil must be assigned to specific groups to allow for concrete planning.

In other areas the response to the Mannheim reforms were more mixed and controversial; but in general, whether the public agreed or disagreed with the proposed form of reorganization, the question of non-promotion numbers was empirically researched and set as an irritation to be discussed widely in the general press and very strongly in the pedagogical press. Instead of discussing the reactions broadly, we will highlight one reading of an influential educator from the German teachers association, which delivers a pedagogical interpretation of the irritation. Still, there were also educators that favored the proposed changes. Readers and recipients in any case most often took up Sickinger’s terminology and used it in concrete and mixed forms when speaking about “weak and moderately talented” pupils (Feilcke, 1902). Pretzel, a key figure in the national teachers’ associations at the time, critically evaluates the Mannheim System (Pretzel, 1905). This text is a good indicator for what actually is perceived as system-relevant for the pedagogical practice:

In Mannheim, in particular, four-fifths of the boys dismissed from school in the years 1877 to 1887 and two-thirds in the decade 1887 to 1897 did not reach the top grade of the eight-grade system, while in the same time almost half or one-third of all boys had to leave school without having advanced even to the second highest grade. That this is an extremely deplorable fact cannot be denied, and Dr. Sickinger has undoubtedly earned a great deal of merit by having for once exposed this deplorable

state of affairs in full force and by having brought the necessity of a remedy before the eyes of all the world (Pretzel, 1905, p. 18).

We see here the acceptance of the agenda setting. As a representative of the educational practice system, Pretzel accepts the irritation and by discussing it integrates it into the system's communication. But from his position, he disagrees with the interpretation of the irritation by Sickinger: "It seems to me, however, that in his search for the causes of the problem, he places the greatest weight on a circumstance that is in fact only partly to blame, and that therefore his remedies basically fail. Although Dr. Sickinger sets up three conditions on which the regular progress of the pupils depend – the quality of the teachers, the quantity and quality of the subject matter, and the quality of the learners (...), he (...) bases it [his reform, the authors] exclusively on the third factor, the different quality of the learners" (Pretzel, 1905, p. 13).

Pretzel criticizes the key element of Sickinger's line of argument – the interpretation of his empirical data: "If one deducts the categories just described from the nine tenths, there are certainly not too many left to whom the characteristic of inferior ability, of 'not being fully gifted' would really apply, and who for this reason could be excluded from the community of the fully gifted. This alone would probably change very little in the figures of the leaving statistics, and therefore, conversely, these figures cannot be a particularly important reason for the classification of pupils according to natural ability" (Pretzel, 1905, p. 13).

For defending the different ability levels found in the same class, something that Sickinger frames as a problem, he argues from a pedagogical viewpoint that difference within classes would be better for teaching; and that differences in abilities are gradual and not categorical. Instructing "better and less qualified pupils" together would provide benefits for both groups (Pretzel, 1905, pp. 13–14). The pedagogical argument understands the heterogeneous class as a support structure for its members. Sickinger defines special, meaning more homogeneous classes, as superior. Pretzel says that "non-normal" pupils would be outside the elementary school population anyway, hence all pupils in this population would be normal and not different, as Sickinger argues.

Pretzel questions the possibility to distinguish between the “fully able” and the “below-average abled” pupil. Pretzel argues further that the pupil who would end up in the weaker category would do so in many cases due to external influences and not due to their own activities:

The theory speaks of a consideration of natural ability, of a division into the better and the moderately able on the one hand, and the moderately able on the other; in practice, however, the division is simply made according to performance or even (in the case of the second group of special class pupils) according to knowledge. (...) [T]herefore, there is little left of a distinction according to talent or natural ability, and the whole reform essentially boils down to the question of whether those pupils who have to repeat or make up for a certain class period should do so together with the younger pupils who have just been transferred to the class in question, or whether they should be gathered from several schools into special classes. (...)
Quel bruit pour une omelette! (Pretzel, 1905, p. 19).

Pretzel reduces all talk on reform to two options, of which one, according to his framing, would be less pedagogical and fair, but more accidental and thus unfair.

All in all, Mannheim is a fracture in the discourse that brings more public attention to the problem of non-promotion and offers solutions, and thereby invites broader discussions. The pedagogical reception is mixed, but some core differences of the systems and their reception of the reform proposal are illustrated. Still, in both systems the assumptions that there are – or can be – different categories of pupils within the school population is commonly accepted, though the different systems answer differently to this irritation, as either administrative (differentiation into different schools / curricular paths) or pedagogical measures (adding finishing classes / creating better support for underperforming children) are proposed.

Here, the relevance of statistics as one aspect of school administration expands for the field of administrative thinking, being perceived

as an irritation in the “external” social system, the system of school practice, teaching and the constitution of the schooled pupils.

3. Discussion – Subjectivation through Structural Coupling

With this paper we aimed to contribute to a better understanding of processes within the general inclusion-exclusion spectrum (Stichweh, 2016) as well as a better understanding of administrative procedures and their social relevance. Our theoretical discussion about describing connections between systems offers a way of viewing them as connected but not causally connected phenomena by invoking a new terminology, thereby helping to better understand their influence on schooling and adding to solely descriptive but at the same time abstract case studies. The problem of individualization, being discussed on the individual level of teaching and also on the organizational level of school management, thereby gains a different angle. In the case of Mannheim, we have seen that promotion rates represented a problem both for the school administration and for the system of schooling. New forms of subjectivation and categories were discussed, forged and circulated, mixing with already existing notions. The “deficient pupil” comes into the picture in both systems as a medium and point of concern, while having distinctively different meanings and producing different reactions in the systems. It is especially the school administration that alters the relations and thereby affects the schooling system with its proposition of new measures to allocate pupils, which they legitimize using statistical operations. The forged subject position is reflected and partly rejected within the schooling structures while more attention is given to inner differentiation and attention for the problem of non-promotion. Both systems are structurally coupled with the connection point being the different categories of pupils within the pupil population. The “deficient child” is one term to label this medium between the systems. We saw as well that both systems used different cultural terminologies and registers to problematize the situation – striking here are the moral, medical and cultural effects, but it is also interesting to observe that the administrative system invokes schooling and family rationalities to convince teachers and parents of their

point of view. At the same time, it seems that the teaching profession is not only divided in their reception but as well more focused on pedagogical thinking and less open towards other rationalities, though they still recognize the administrative nature of the proposed system.

In the case of the USA, we have a similar development with slightly differing actors and rationales. Here, the innovation does not come from a less influential administration itself but from influential external actors that endorsed the idea of failing school education, wasted expenditures and unfinished schooling processes. Again, administrative data and resources were invoked, statistical measures were discussed and as a result, ideas of a mismatch between current schooling and certain pupils were brought forward, which found their expression in the label of the “retarded pupil”. In this example, a psychological expert is involved, who incorporated the knowledge and rationales of his specific scientific field, and thus acted as an intermediary instance between the system of schooling and the administration system. This in turn created a specific terminology and made room for a differentiation within the pupil population, which served as a starting point for psychological observations and further studies in different local administrations. “Laggards” are set as a medium and discussion point of the schooling system, and are addresses by the administration as an area of expertise for the psychological profession and their procedures, from which they started to produce differentiating knowledge about children.

Thus, we showed that there is something to gain from this perspective, namely that we can get closer to *how* certain phenomena related to schooling and school organization emerge and how different social systems establish contact between one another. We can also observe how change is proposed, reflected, adapted and rejected within these respective procedures, e.g. the study conducted by Ayres sparked additional local studies by school administrations that sought to verify, and in some cases expand, the study’s method and categories. The teachers’ discussion more or less rejected the Mannheim system, yet some city administrations took up the idea and some teachers promoted it. In general, the idea to differentiate within the pupil population itself (regarding teaching or the administration of school structures) gained

momentum and the possible and new reaction of differentiated planning was (re-)established. The emergence of a new subject position and new subjectivation procedures in this process occurred as somewhat of a “side effect” of “structural differentiation” rather than as an unspecified phenomenon.

We tried to visualize this process as follows (figure 2):

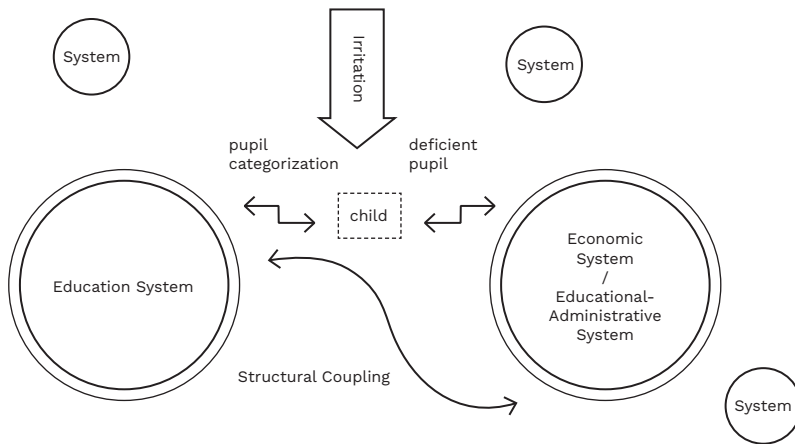


Figure 2: Model of structural coupling applied to the case studies.

What we know from research on Stern and Binet is that the psychological profession started to gain social relevance around 1900, but what our contribution clarifies is that and how the problem of differences within the pupil population was recognized and perceived as an irritation within different systems, which would in turn demand an understanding of, descriptions and ideally procedures to capture and support the administrative differentiation procedures. It is this re-focusing that Sickinger aims at with statistical means, while teachers (continuously) applied their own forms of measuring their pupils' progress and decided on their allocation. Organizing such allocation procedures and invoking teachers' judgement abilities would later become a core part of the emerging psychological innovations (Lamberti, 2006) and

came to be one of the key focal points of teacher training in the emerging scientific lectures (Ewald, 1913).

The question that remains of course is what exactly happens with the different groups of children and their subject positions? Do they develop specificities and how are these connected to the logics of the social systems that are producing their subject position and how does the medium of the “deficient child” affect the evolving intermediary structures and the emerging form of coupling? To explore this question, it would be helpful to look in more detail at the processes of culturality and how they affected the systematic procedures. Certainly, the “deficient child” and child abnormalities play a significant role, and medical terminology exerted a strong influence on the systems of interest here, but how exactly did medical terminology become so significant in these discourses? Were there any specific moments, actors and systematic interactions, or do we see more of a meta-influence with the medical field being very popular around 1900? Such questions await further research to which we hope the introduced concepts might contribute and spark debates.

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