

Abstraction, dissociation, and mental labor: Paul Szende's social epistemology between physiology and social theory

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Abstract In this paper I focus on the Hungarian intellectual and politician Paul Szende's sociologically oriented epistemology. I trace the influences of physiology, psychology, economy, evolutionary theory of his day on his sociological theory of abstractive knowledge, and discuss the close connection between physiological, social, and economic aspects in the early sociology of knowledge. My discussion continues with an examination of Szende's differentiation between two economic effects within social epistemology: on the one hand the 'economy of thought' in the tradition of Ernst Mach, with its physiological, organic, and integrative functioning of knowledge; on the other hand, the socio-economic effects of social selection, exclusion, and societal antagonism. Besides the Marxist and more specifically the Austro-Marxist environment of Szende's writings, I trace the influence of the economic theory of Italian economist Achille Loria on Szende's understanding of the antagonistic nature of the transformation of knowledge. The paper is set at the intersection of philosophy of science and history of science. It relates epistemological issues to historical, social, and scientific developments in Szende's day and thus combines a philosophical analysis of Szende's sociological theory of knowledge with historical research into the natural, social, and economic sciences of his time.

Keywords Paul Szende · Sociology of knowledge · Physiology · Austro-Marxism · Antagonism · Achille Loria

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Introduction

The sociology of knowledge is characterized as a discipline that studies the relations between society and knowledge, especially the social conditions of knowledge. When looking into the beginnings of sociological perspectives on epistemic issues around 1900 we find, however, concepts of knowledge as well as of society that are not so clear-cut. Society and thought merge, by the mediation of physiology, within the study of the bioenergetic and neurophysiological aspects of life processes and knowledge production (Canguilhem 1970). Contemporaries examined the living organism and the relation between perception and the social environments within a physiological, energetic, evolutionary and economic framework (Smith 1998; Hampe 2010). The physician and philosopher Ernst Mach, the psychologist and sociologist Wilhelm Jerusalem, and the chemist and Monist Wilhelm Ostwald published exemplary theories of thought in the spirit of this energetic and physiological scientific culture.

In my paper I examine an early approach to the sociology of knowledge under the influence of the economic and physiological theories of knowledge of Ernst Mach and Wilhelm Jerusalem—Paul Szende’s social epistemology and his theory of abstraction that connected the bioenergetic and neurophysiological conditions of knowledge in view of their social implications. His sociology of knowledge was not concerned with the social conditions of knowledge; instead, Szende wanted to know which kind of knowledge produced which kind of societal relations and how to foster epistemic and social transformation. The energeticist and physiological rationale thus served Szende as the basis to argue for both the economic functionality and productivity of knowledge and to criticize its exclusionary effects within social relations. I examine below the economic characteristics of knowledge in Szende’s epistemology, its oppressing effects, and the moments of epistemic transgression.

Paul Szende (1879–1934) was a Hungarian politician and intellectual. After obtaining a law degree and holding the position of Secretary of Treasury and later Minister of Finance in the Károlyi government, Szende became a social democrat in 1918. In Budapest, he was a member of the Budapest Sociological Society that had a role within Hungarian social life comparable to that of the Fabian Society in England. Moreover, Szende was part of the Galilean Circle (Galilei kör), which can be described as the “principle organ of progressivism” among young intellectuals at that time (Gabel 1991, 8 and 17–19). The Galilean Circle fostered a synthesis of Marxist thought and the philosophy of Ernst Mach—a theoretical combination that was influential for Szende’s epistemological writings that are the focus of this article. Following Miklós Horthy’s counterrevolution in 1919, Szende emigrated to Vienna. As he reported in an autobiographical statement, only then did he begin to study philosophical, physical, mathematical, and psychological issues and to work on epistemological questions (Szende 1970). Based on these disciplines and philosophically influenced by the positivist tradition of John Stuart Mill, Wilhelm Wundt, Ernst Mach and by the French conventionalism of Henri Poincaré (Congdon 1991), he worked on a psychological foundation of the materialist philosophy of

science. Connecting his interest in socio-economic and epistemological questions as well as in the natural sciences, he shifted from his earlier socio-historical research on Hungary to sociological and epistemological analyses. He pursued a socialist sociology of knowledge and philosophy of society by examining the relation between the sciences and social structures (Szendé 1970). In Vienna, Szendé supported himself through journalistic work for Hungarian- and German-language newspapers and joined the editorial staff of the socialist journals *Arbeiterzeitung* and *Der Kampf*. In this cultural and political environment, he established contacts with socialists such as Karl Renner, Otto Bauer, Karl Kautsky, and Rudolf Goldscheid (Congdon 1991). His political and theoretical orientation was in tune with the political environment in Vienna at the time: like the Austro-Marxists, he positioned himself between Bolshevism and Germany's conservative socialist mainstream. In this way, he promoted democracy against authoritarian forms of political regimes and a relativist epistemology against the stability of ideological regimes. In a way characteristic of this environment, Szendé related his Marxist interests and his critique of ideology to the recent debates in the sciences regarding such issues as relativity theory, neo-Lamarckism, physiology, experimental psychology, and even psychoanalysis.

Whereas Szendé's Marxist orientation and his influence on Mannheim's *Ideology and Utopia* have been investigated by other scholars (Gabel 1991; Congdon 1991), in this article I focus on Szendé's social epistemology in relation to the natural and the economic sciences. I analyze his epistemological writings within the context of biological, physiological, and psychological sciences of his day and take a closer look at the social and economic theories that shaped his epistemology. In this way I relate it more specifically to Austro-Marxism, which was the political and theoretical environment for Szendé during the time he spent in Vienna. Whereas Szendé is best known for his critique of ideology, here I focus on his epistemology of abstraction and only then relate it to the issue of ideology.

Sociology of knowledge in a physiological, psychological, evolutionary, and economic perspective

Early-twentieth century thought treated social relations and knowledge as interrelated processes. The discipline of physiology, especially its bioenergetic and neurophysiological foci, provided a common background for this simultaneously societal and epistemic interest in which both society and epistemology were examined for their functional organizational relations. We can thus find, in some accounts of socially oriented epistemologies, a close connection between the study of the social and the physiological dimensions of knowledge. Such accounts emphasized that knowledge has neurophysiological foundations but at the same time is embedded within social environments. Szendé's sociology of knowledge can be understood in this mold as a social, economic, and physiological theory. The Marxist background and the demystifying and anti-dogmatic tendencies of the early Hungarian sociology of knowledge in general and of Szendé's sociological theory in particular have been highlighted in recent studies (Congdon 1991; Gabel 1991;

Demeter 2011). The sociological perspective and critical implications of Szende's epistemology, however, also fit within a broader context of theories of knowledge based on a physiological and evolutionary understanding of epistemic and social processes, such as Wilhelm Jerusalem's sociology of thought (Jerusalem 1924; Uebel 2012) and Ernst Mach's philosophy of science based on the idea of economical processing of thought. Against this background, Szende's approaches to epistemological issues such as *abstraction*, *relativity*, and *critique* provide an interesting example of a sociological theory of knowledge, early in the twentieth century, exploring the close connection between social, physiological, and economic issues. In this regard, three main influences should be considered:

- (1) In tune with nineteenth-century psychophysics, Szende described knowledge as a psychological phenomenon grounded in physiological processes within an organic whole. Knowledge is part of the living organism as a self-regulating system. The epistemic activity of abstraction is, for Szende, conditioned by physiological characteristics aiming at the efficient use of resources in adaptations to the environment advantageous for stable living conditions. His epistemology is thus embedded within the key physiological concepts of energy, motion, effort, circulation, regulation, and feedback processes (Sarasin and Tanner 1998, 30). The whole of the organism tends to balance out external disturbances by processes of adaptive self-regulation in exchange with its environment. In this way, it aims at sustaining its state of equilibrium for the well-being of the whole organism (Szende 1923a, 412; Canguilhem 1988).
- (2) Another important source for Szende's epistemology was Wilhelm Wundt's associationist psychology. Wundt, founder of experimental psychology in Germany, considered the human soul as an interaction of psychic elements. According to him, psychology aims to study the different forms of association among these elements. Under Wundt's influence, Szende took knowledge to be a product of chains of associations, and assumed that recurrent associations left traces in the organic and neural processes, thus bringing about persistent transformations in the body and the nervous system (Wundt 1911, 538–543). The focus of Wundt's associationist psychology is thus the psychological persistence of phenomena such as of memory, routine, and habituation. For Szende's epistemology, these phenomena represent important psychological features of the economic processing of thought. He pointed out that the processes of association always tend to reinforce what is past and what is habitual. In opposition to associationist psychology, Szende elaborated a critique of the authoritarian effects in society of habitual knowledge (Szende 1970, 50–51).
- (3) Moreover, Szende combined the disciplines of physiology and associationist psychology within an evolutionary perspective. In this respect, we can trace the reception of neo-Lamarckian ideas in his epistemological writings. For example, Szende referred to the Viennese biologist Paul Kammerer and to the sociology of Rudolf Goldscheid (Szende 1923a). Both developed sociological conceptions based on the biological theory that evolutionary developments are consequences of assimilation and adaptation rather than of heredity

transmission, put forward around 1900 by the influential theories of the emerging genetic theories of August Weismann and Hugo de Vries (Müller-Wille and Rheinberger 2012). Neo-Lamarckian theories emphasized that human culture is not a result of selection; instead, it emerges from processes of adaptation within changing environments. They understood cultural changes as effects of complex organizational principles and in this way shaped the emerging social sciences of psychology, anthropology, sociology, economics, and politics (Gissis 2002, 2009). As a consequence of this neo-Lamarckian influence and in line with biological research at the Vivarium in Vienna during the first decades of the twentieth century (Hofer 2002), Szende developed a neo-Lamarckian understanding of social processes as well as of knowledge emerging within society. He emphasized that human life and its epistemic achievements are shaped within two kinds of environments: on the one hand, within the natural environment by processes of adaption; on the other hand, within “artificial” social environments in which new technological devices, new modes of cooperation, and new scientific techniques of abstraction have been invented (Szende 1923a, 415). Within these “artificial” social environments, the achievements of human life are not shaped by way of natural selection. In the history of knowledge, not only did the strongest and fittest inventions and techniques survive. Instead, Szende emphasized that these artificial environments display specific “social” conditions with complex processes of transformation (Szende 1923a, 422). Although Szende assumed that epistemic and living processes have a physiological basis, he described economic developments within society not as a continuous and organic growth but as a dialectical and antagonistic process.

Psychological, physiological, and neo-Lamarckian influences overlapped in Szende’s epistemology in his conception of a “social physiology” (Szende 1923a, 417). In this regard, it is again remarkable that the early sociology of knowledge was not only an epistemology of societal relations but equally of physiological processes. Szende pointed out that sensual perception is not an individual activity. The senses developed in fact within social environments and are thus to be understood as products of social interaction. For him, knowledge is the result of perceptions by means of “social senses” such as scientific instruments (microscopes or telescopes) as well as the epistemic tools of concepts or hypotheses. According to Szende these “social senses” are not stable and historically neutral sources of perception; instead, they modify and enhance the process of perception and render it adaptive. Perception is thus not deformed by the intervention of instruments and tools. Rather, Szende understood the “social senses” of scientific instruments as necessary participants in all epistemic processes that thus provide a genuinely relative kind of knowledge.¹

In light of his neo-Lamarckian understanding of epistemic and social environments Szende inscribed the production of knowledge within two rationales: on the

¹ Szende’s epistemology of “social senses” can be understood as an early example of an historical epistemology of perception, as Marx Wartofsky formulated it in 1973 (Wartofsky 1979).

one hand, the bioenergetic framework and the neurophysiological dimension of knowledge according to which the individual organism's knowledge belongs to the physiological process of self-regulation; on the other hand, he called attention to "artificial" social environments in which knowledge production underlies mutual adaptations and transformations incorporating instruments and tools. Tracing the historical context of the physiological, evolutionary, and economic inflections of Szende's epistemology thus sheds light on our understanding of the sociology of knowledge of the 1920s. Richard Saage argues, in his recent study on the reception of evolutionary theory within Austrian and German social democracy during the first decades of the twentieth century (Saage 2012), that in this context evolutionary theory did not merely serve as a foundation of biologicistic and naturalistic theories. In fact, social democrats such as Anton Pannekoek, Otto Bauer, and Karl Kautsky distinguished the biological from the cultural dimensions of human life, arguing for both the correlation and the methodological differentiation between the biological and the historical and social conditions of human life. In this way, they argued in behalf of the disciplinary separation between the biological and the historical and social sciences. Szende's sociology of knowledge, in line with these social-democratic conceptions of societal life developing within "artificial" man-made environments, involved two kinds of epistemic conditions and thus distinguished a physiological from a societal dimension of knowledge—the physiological, psychological, and bioenergetic conditions of human life and individual knowledge as well as their political, socio-economic, societal and thus man-made relations and regulations. It is only against this background of physiological, bioenergetic, and "artificial", socio-economic conditions of knowledge production that Szende's sociological foundation of abstraction, logic, and relativity, as well as his ideology critique can be examined for their epistemological and political consequences.

Abstraction

In 1923, Szende published an article on the sociological aspects of knowledge in the German journal for the social sciences *Archiv für Sozialwissenschaft und Sozialpolitik*. In this article, he set epistemological issues within a physiological, energetic, and evolutionary framework and suggested that abstraction was the basic activity in the production of knowledge. Abstractive knowledge results each time the living organism performs pragmatic moments of selective perception and omission. In this way, Szende understood abstraction as an effect of self-regulation within physiological processes with the aim of sustaining and stabilizing the living organism through selective perception. Based on physiological processes, knowledge is therefore the result of an abstractive process in which certain elements are omitted whereas others are reinforced. Therefore, Szende considered all knowledge as merely relative (Szende 1923a, 469). In this regard, his argumentation reflected the epistemology of Ernst Mach, who had argued that objects and subjects are only pragmatic assumptions of more constant constellations in the flow of sensations (Mach 1996). Following Mach, Szende emphasized that abstraction is an economic process that constricts the broad scope of perceptions to a manageable and

conscious unity (Szende 1970, 56: “Bewusstseinsenge”; Szende 1923a, 429) and avoids excessive “mental labor” (Szende 1933, 452f.). Attention, concentration, and interest—all products of the economic tendency of knowledge production—foster the emergence of memory, habits, and tradition. Szende saw these, in turn, as the decisive foundations for distinguishing constant from ephemeral traits (Szende 1970, 48). For Szende, abstractions thus perform useful functions within the economy of thought (Szende 1970, 37): The economic rationality of knowledge tends to reduce new sensations to those already known. Accepting a firm standpoint within the relational conditions of knowledge allowed the organism to distinguish between urgent and less urgent needs in biological and social situations. Thus, in accord with philosophers and historians of science such as Ernst Mach, Federigo Enriques, Rudolf Eisler, Hans Kleinpeter, and Hans Vaihinger, Szende held that the economic rationality of knowledge serves as a means of orientation and differentiation.

When Szende pointed out that knowledge production always involves processes of selection, he also emphasized thereby that there is no such thing as ‘absolute truth’. Since the production of knowledge is part of life processes, it necessarily emphasizes specific life-sustaining elements while ignoring others. The stream of sensations within changing environments is too voluminous and diverse to be assimilated unabridged. The individual mind always needs to extract and rely on but few and recurring elements, thereby building up habits and memory. By this emphasis on a selection of elements, life processes aim at stabilization. All truths are relative to particular historical circumstances and perspectives, a conviction that Szende developed further in light of Einstein’s theory of relativity (Szende 1921; Congdon 1991).

However, striving for stability in nature and the economic tendency of thought also have conservative effects that have brought about the mechanization of life processes and the authority of habituation. All dogmatic attitudes emanate from the “biological tendency towards stabilization” and the need for orientation amidst the disorderly occurrences in our environments (Szende 1970, 37–38). With his physiological theory of abstraction, Szende also formulated a critique of the selective and abstractive processes of knowledge production that foster mystifications and ideological thinking. Much like abstraction processes life sets norms and habits of perception, thereby ruling out alternative experiences. For Szende, the question was thus not whether knowledge production *should* operate economically or not. An economic rationale for the production of knowledge provided him with an argument both to explain the function of knowledge production and to criticize its malfunction.

The social effects of abstraction

When Szende pointed out that abstraction is the basic epistemic process of all living organisms, he also projected this perspective onto social life. Not only does the individual organism stabilize its equilibrium by processes of abstractive selection and adaption: the emergence and stabilization of social formations are likewise based on abstraction. The epistemic strategy of living organisms does not only

produce abstractive knowledge: it has also stabilized societal structures that tended towards absolutism and “minority regimes” and in this way controlled the broad range of alternative perceptions. For Szende, the sciences based on this abstractive mode of operation have had a special role in stabilizing and maintaining the social order. In an article on “The system of the sciences and the social order” (“Das System der Wissenschaften und die Gesellschaftsordnung”), he emphasized that abstraction was active in sciences such as philosophy and physics, and even in such socially influential sciences as law and economics. Science has always involved abstraction and is based therefore on omission. It has acquired its authority by excluding the “masses” from its hermetic realms. Concepts, theories, and hypotheses are abstractive tools of the sciences used to support and maintain stable social orders and to suppress alternative perceptions (Szende 1922b, 11). Thus, Szende regarded science, especially the abstractive discipline of logic, as a privilege of those social strata that had enough time and leisure for abstractive mental work (Szende 1922a).

In this last regard, it was Wundt’s associationist psychology that influenced Szende’s epistemology. Szende pointed out that processes of association based on neurophysiological traces reinforce the past and the habitual (Szende 1970, 50–51). The past exerts its influence by assimilating new perceptions to the already known, thus stabilizing and strengthening established and traditional thought. Knowledge and abstraction are only *relatively* valid within these processes of emphasis and omission. Truth can thus only be partial. Abstraction, as Szende insisted, has oppressing effects; it enforces “authoritarian” ideas. With respect to social structures, the epistemic process of abstraction constitutes a “minority government” that rules out omitted perceptions and leads to conceptions of the absolute, of supernatural essences such as God, the State, or the Nation. Szende also noted how abstractive knowledge has given rise to socio-economic inequality, as selective perception brought about societal exclusions. Moreover, he emphasized that the past “violates” the present in all realms of social life by means of institutions that conserve social traditions such as education, the church, and the press (Szende 1923a, 422).

Comparing and relating the physiological and the social aspects of abstraction brings us to consider two dimensions of Szende’s epistemology. On the one hand, for Szende abstraction is a product of self-regulating processes involving the bio-economic selection of certain perceptions to the exclusion of others. It fulfills a life-sustaining function and acts as a physiological precondition for all knowledge. On the other hand, abstraction also sustains processes of exclusion and omission in the social realm. Yet within social, man-made environments, abstraction has different consequences than within natural environments. It is not an efficient self-regulating process for correcting states of disequilibrium for the sake of the organism alone; instead, it helps to regulate the organization and normalization of social relations. It engenders exclusion and stabilized social life within rigid epistemic and social regimes and without the possibility of individual self-regulation. These social effects of abstraction were for Szende thus not a biological problem but a historical and political issue involving inevitably antagonistic conditions of social life.

Considering the intersection of physiological and social aspects in Szende's epistemology, it will be instructive to look at the conjunction of biological, physiological, and neurophysiological models of society during the first decades of the twentieth century. Physiologist Walter B. Cannon, for example, took the physiological processes of the living organism as a model of the functioning of society. In his 1932 book *The Wisdom of the Body*, he described the body as carrying out autonomously organized self-regulation, for which he coined the term "homeostasis". Self-regulation is based on feedback mechanisms that facilitate the coordination and integration of the separate parts and processes of the body in the living organism as a whole. In light of his understanding of the organism as a self-regulating process, Cannon envisaged a physiological model of society. For him, the organism as well as social processes are governed by self-regulating organizational principles along the lines of an analogy between the "body physiologic" and the "body politic" (Cannon 1939, 305–324). The organism is thus for Cannon a model for both social and industrial forms of organization. Social homeostasis prevents destructive disintegration of society, whereas self-regulating mechanisms sustain the wealth of the social organism. A society is thus an autopoietic system striving for stability. Historian Jakob Tanner has noted that, with his physiological understanding of social relations, Cannon was in tune with the social order of Franklin D. Roosevelt's 'New Deal' (Tanner 1998).

The neurophysiological discourse since the nineteenth century also suggested a certain analogy between conceptions of the brain and its functions and the political organization of society. Drawing on psychological discourse, the tradition of political liberalism regarded the ability to establish associations in both a psychological and a social sense as the basic principle of civil society. It represented in this way the highly prized ability to establish voluntary associations within civil society. An example of this psychology and politics of association from around 1900 is found in Eugen Bleuler's conception of schizophrenia. Bleuler described schizophrenia as a dysfunction in associative processes causing schizophrenic patients to disconnect from their social environments (Bernet 2013). It is remarkable that, contrary to these physiological and neurophysiological models of social relations, Szende laid emphasis not the functioning but the *malfunctioning* of society as a physiological process. He suggested that society should not be regarded as a self-regulating physiological process or as stabilizing associations. In society, sustaining associations do not harmonize the relation between the living organisms and their social environments; instead, associations have established habitual and rigid forms of life conducive to maintaining hierarchical and exclusive social relations. By contrast to the physiological and associationist models of society and epistemic processes, Szende suggested that life within societal relations likewise requires dissociative actions as a way of breaking up ossified social institutions and norms incapable of change and development. In contrast with the liberal model of society promoting deliberate and corporate associations of free individuals, Szende can be understood to be a proponent of a social-democratic model of social life that puts in question rigid social associations and their institutional authority conditioned by historically developed economic power relations. With reference to the then contemporary scientific findings, Szende's work reflected the relation of the early labor movement to

the role of the sciences in society. Szende was not per se critical of the natural sciences; instead, he understood the important social impact of the sciences and appropriated contemporary scientific knowledge for his critique of social and epistemic regimes. Szende's epistemology was thus in line with many exponents of the early labor movement and social democracy within Austro-Marxism who argued against reducing the social sciences to the natural sciences, and at the same time drew on the sciences in order to criticize social inequality (Bayertz 1983; Saage 2012).

Counteracting abstractions and ideologies

When Szende criticized the regulating and exclusive effects of abstraction in societal life he also considered the possibility of counteracting those effects. In this way, his epistemology not only addressed the functioning but also the malfunctioning of stabilized knowledge in regard to its habitual structures. For both dimensions of abstraction—physiological and social—he articulated alternatives to the constricting effects of abstraction and sought ways to foster epistemic and social transformation.

With regard to the physiological dimension, Szende cited neurophysiological sources for counteracting stabilized abstractions. Experience was, for him, a “plebeian and democratic” source of knowledge that affords modifications of abstractive and idealistic knowledge on a basic physiological level (Szende 1923a, 452–456). Experience maintains connection with the external world by immediately registering changes within the environment and thereby prompting useful adaptations. Because experience is an important source of epistemic processes, Szende assumed that neurophysiological processes are the basis of knowledge production and insisted that experience could be a source for questioning regimes of abstraction. He regarded the experiential foundation of knowledge as an important influence for several contemporary theories, such as materialism, evolutionary theory, biology, psychophysiology, the naturalistic movements in art and literature, the positivistic and phenomenological philosophy of Ernst Mach, as well as Sigmund Freud's psychoanalysis (Szende 1970, 87).

Szende's understanding of experience was influenced by the concept of kinesthesia developed by the British neurologist Henry Charlton Bastian (1837–1915). Bastian conceived his theory of kinesthesia relying on the concept of a ‘muscular sense’ in the tradition of the physicians and physiologists Charles Bell, E.H. Weber, Jean Landry, Guillaume-Benjamin Duchenne, Alexander Bain, and Wilhelm Wundt. He assumed that sensory information derived from movement is sensed in the muscles and that these sensations regulate the basic movements and perceptions of living organisms without involving consciousness. On these grounds he held that we sense the position and movement of our limbs and discriminate between different degrees of ‘resistance’ and ‘weight’. The muscular sense thus provides unconscious guidance in the performance of movements. With his concept of kinesthesia, Bastian articulated a sense of movement belonging to both conscious and unconscious sensations (Jones 1972, 304). In this way, for Bastian the muscular sense does not differentiate between voluntary and automatic movements. Instead,

any kind of conscious or unconscious activity derives from the same kind of sensory centers providing thereby a basic source for acquiring knowledge.

For Szende, kinesthetic perceptions such as rhythmic, sensual movements, but also phenomena such as comatose twilight states, constitute the neurophysiological foundation of the ego as a minimally empirical ego. Referring to Bastian's theory of kinesthesia, Szende criticized Kant's concept of the transcendental ego. According to Szende, kinesthetic perceptions provide an irreducible basis for experiential knowledge and cannot be subjected to abstractive processing (Szende 1923a, 460). Where Szende drew attention to experience counteracting abstractions, Bastian argued that kinesthetic sensations intervene and correct perceptions that are deceived by visual or other sensual impressions (Bastian 1887, 57).

Szende's sociology of knowledge is therefore an empiricist epistemology (Guttmann in Szende 1970). Contemporary critics of Szende's empiricism have pointed out that experience is shaped by theoretical presuppositions and thus can never be unbiased (Grünwald 1967, 118). However, rather than attend to some sort of neutral and passively receptive experience and its theoretical conditions, Szende examined the practical conditions of experience arguing that knowledge took form within practical conditions. For this conception of empiricism, the importance of kinesthetic sensations consists in the connection they establish between thought and action thus undermining purely theoretical and abstractive knowledge. For Bastian, kinesthetic perception is the neurophysiological process in which "thought is about to translate itself into action" (Bastian 1882, 617). The practical basis of knowledge in terms of the material pressure of living conditions and biological needs is, for Szende, also the source for the experience of social relations and provides the possibility for change (Szende 1923b, 332). In contrast to Bergson's "immediate data of consciousness" that contribute to intuitive knowledge of life, for Szende experience is intimately bound to practical needs. For example, the immediate experience of the working class was affected by hunger, poverty, and wage pressure (Szende 1930, 555).

Amplification and dissociation

Based on this minimal kinesthetic empiricism, Szende specified two modes of transgression of the bio-economic constriction of consciousness to abstractive thinking—the amplification and the dissociation of consciousness. In this regard, Szende proposed that there is a close connection between neurophysiological and social processes. The neurophysiological possibilities of amplification and dissociation of mental processes did not develop within the organism's biological needs and its natural environment but only within the social relations of man-made environments. In contrast to the liberal tradition, according to which the capacity to build voluntary associations is a precondition for the emergence of the civil society, Szende held that the mental activities of amplification and dissociation are important faculties within the more complex social relations. Those activities that exceed the organism's life-sustaining needs do not occur within the merely physiological but only within societal processes. They counteract the constricting effects of memory, of physiological, social, and scientific habituation and abstraction (Szende 1923a, 428).

Szende associated his own ideas with two contemporary cultural theories that argued for evolutionary and energeticist approaches to social life. In his evolutionary theory of the cultural development of human life, the psychologist and sociologist Franz Müller-Lyer developed the “law of the expansion of consciousness” (*Gesetz der Bewusstseinsweiterung*), claiming that consciousness expands its purview with cultural evolution. Szende’s second reference was the cultural theory of the historian Karl Lamprecht. Lamprecht, who in turn was influenced by the psychology of Wilhelm Wundt, founded his cultural theory on the concept of the “breadth of consciousness” (*Weite des Bewusstseins*). He assumed that the phenomenon was facilitated by physiological changes within the biological foundations of individuals. The “breadth of consciousness” enabled processes of both psychological dissociation and reintegration (Lamprecht 1905). Lamprecht argued that, within the “breadth of consciousness,” individuals and societies were not homogeneous unities; instead, they embraced antithetical ideas, desires, and affections, turning individuals and societies into “organisms with antagonisms.”² Belief in the progressive evolutionary and teleological progress of cultural advancements slowly started to decline around 1900 (Haller 2014).

In his work on ideology, Szende similarly pointed out that counteracting the restricting effects of knowledge should foster processes of “dissociation” (Szende 1970, 89)—a concept introduced to psychiatry by Pierre Janet in 1889 in order to describe disruption in the normally integrated functions of memory, identity, perception, or consciousness as observed in patients diagnosed with hysteria (Brunet et al. 2003). At the beginning of the twentieth century, Eugen Bleuler described the symptoms of schizophrenia with recourse to the matrix of dissociation (Bernet 2013). Brigitta Bernet has drawn attention to the psychological and political dimensions of Bleuler’s concept of schizophrenia, namely patients’ difficulty to associate with the given societal structures and their tendency to dissociate from accepted societal norms. Szende also extended the concept of “dissociation” to a social dimension. However, in his hands it was not a diagnostic tool to specify pathological mental states, but therapeutic means against both social and epistemic authoritarian regimes of exclusion.

Bringing together the neurophysiological and social dimensions of Szende’s account of the amplifying and dissociative faculties in epistemic processes also offers a perspective on his socio-economic approach. Szende’s social theory can generally be understood in the light of his interest in the writings of Marx and Engels, his advocacy of social democracy, and his close contacts with the Budapest Sociological Society as well as Austro-Marxism during the time he spent in Vienna. In regard to dissociation, however, it was the economic theory of Achille Loria that played a specific role in Szende’s thinking. Loria, an Italian economist of the late nineteenth and the early-twentieth century, who positioned himself in a close but critical relation to Marx’s and Marxist economic theories, analysed income in accordance with a dialectical and materialist conception of social development. He

² “Wie für den einzelnen Menschen so besteht auch für jede menschliche Gemeinschaft eine grosse seelische Weite, in der sich antithetische Vorstellungen, Strebungen, Gefühle geltendmachen können; mit nichten sind Individuen oder Gesellschaften ‘ausgeklügelte Bücher’, sondern ‘Organismen mit ihrem Widerspruch’” (Lamprecht 1905, 102).

suggested that the separation and antagonism between two sorts of income (ground rent and capital profit) resulted in social demystification. The opposition between economic interests was not suspended by the reconciliation of society. Instead, the antagonism entailed the epistemic and political emergence of a third party—the labor movement focused on the conditions and concerns of labor (Loria 1895). In this way, for Loria transformations in astronomical, geological, and biological evolution as well as social developments are “painful disruptions and distressful catastrophes” (Loria 1929, 33). The emergence of capital property and the stabilization of its political influence in relation to manifold social antagonisms could thus only be implemented by powerful institutions such as customs, law, and a political constitution. Szende, too, saw logic as a science for eliminating contradictions and at the same time petrifying existing social structures (Szende 1922b). Far from seeing logic and the economic concept of self-interest as driving forces in classical economy, Szende thought in terms of an antagonistic approach to epistemological as well as socio-economic and political questions. He propounded disruptive activities to counter the ways in which abstractive knowledge contributes to omissions, restrictions, and exclusive social relations.

Szende described antagonistic activity within mental processes as a psychophysiological revolution of the unconscious: “The potential energies of society (...) discharge (...); they create the new and destroy the old.” (Szende 1970, 18). Revolution is thus not only a political but also a psychophysiological event involving “permanent tension, increased mental activity and neural effort” (Szende 1923b, 335). Counteracting stabilized knowledge was for Szende a neurophysiological effort within social relations: it is the process of revolution against authoritarian political regimes but also against authoritarian knowledge regimes. In his article on abstraction, Szende described revolution as the insurgency of ignored elements against those favored and suggested that a surfeit of neglected elements would demolish stabilized structures—both on the neurophysiological level of sense perception and on the social and political level. For the neurophysiological revolution, Szende characterized mental processes in a somewhat Freudian way. The subconscious represents the realm of ignored sensations that, under the influence of certain associations, sometimes erupt in the form of conscious experiences conducive to new kinds of perception. Regarding political revolution, Szende wrote, on the other hand, of the uprising within the Habsburg monarchy of the so-called ‘ahistorical’ nations, a process that generated epistemic novelties in the field of the historical and linguistic sciences (Szende 1923a, 481). Revolution was thus, for Szende, both a political and an epistemic event caused by a change in perspective, thereby enabling new experiences, associations, and dissociations. He included as well revolutions in the history of science, such as Einstein’s relativity theory, Faraday’s work on electromagnetism, or Lobachevsky’s hyperbolic geometry.

There are, then, three interrelated dimensions in Szende’s sociology of knowledge: abstraction and revolution take place in biological and physiological, epistemological and scientific, as well as in social and political environments. In each of these realms, however, they display specific modes of operation and effects.

The therapy of ignorance: hygiene, general revision, pedagogy, and mental labor

Since Szende argued that abstractive processes affected every kind of knowledge production, both conscious and unconscious, counteracting physiologically conditioned restrictions was for him more than a question of developing awareness of the ‘actual’ conditions of societal relations. Knowledge based on pure and unbiased experience is not possible since it always initiates new abstractions in order to reduce the variety of perceptions (Szende 1923a, 445). Moreover, the physiological foundation of experience alone does not count as knowledge: it always needs abstractive and interpretative processing in order to become an epistemic product. In this regard, Szende held that fact-finding is a complex of mental procedures involving interpretation, critical review, combination, identification, and representation. Historical ‘facts’ are thus never neutral, but are instead shaped by social-epistemic antagonisms (Szende 1923b, 330).

As abstractive constrictions of knowledge bring about individual and physiological problems with societal epistemic effects, Szende did not restrict the exercise of amplification and dissociation to a narrow circle of intellectuals. In view of his social democratic beliefs, he outlined measures for a social-epistemic reform of the exclusionary, oppressing effects of abstractions and ideologies. In this respect, we note once again that Szende’s social epistemology was in fact a physiological and energetic cultural theory of knowledge. He argued that counteracting abstractions and ideologies required a mental “effort” and psychophysiological “energy” in order to overcome inert social and epistemic constrictions and consolidations (Szende 1970, 87). Learning how to develop this counter-abstractive energy was part of Szende’s proposal for epistemological reform in which critical thought becomes part of hygienic discourse. It involved educational and enlightening measures as well as the development of critical habits: (1) interpretation understood as the “hygiene” of abstraction against social diseases and catastrophes (Szende 1923a, 483–485); (2) the “general revision” of knowledge in order to demonstrate the precarious state of absolute truths (Szende 1970, 90–91), and (3) pedagogical measures to foster independent thinking (Szende 1970, 87). These ‘therapeutic’ measures against the societal effects of abstraction were intended to display the perspectival character of all knowledge and to subject it to the control of experience. Philipp Sarasin has shown, in his work on the history of knowledge of the body, that perception as well as the sensitivity and organization of the nervous system have been included in discourse on hygiene since the end of the eighteenth century (Sarasin 2001, 108–117). Szende too related questions of epistemology to those of hygiene. His epistemology of abstraction did not, as in eugenic thinking, involve measures of social and mental selection and purification. Szende sought instead to counteract the physiologically conditioned selection of abstractive knowledge by subjecting the social effects of the epistemic process to the energetic rationale of a regime of “mental labor” (Szende 1933, 454: “Denkarbeit”). Relating the social and epistemic problem of abstraction to these therapeutic measures, Szende’s epistemology did not, as did the epistemology of the Vienna Circle, propose logic as a corrective. Instead, he sought to foster

transformation by means of ongoing production of knowledge. Szende's call for "mental labor" comprised interpretation, critical review, and independent thinking in order to overcome physiologically conditioned restrictions of knowledge. The epistemic and social realms thus required epistemic work on the neurophysiological constitution for the sake of developing amplifying and dissociative faculties. "Mental labor" was to be directed against the psychological habit of "mental laziness" that, according to Szende, afflicted all dictatorships as well as the cultural policy of the Viennese social-democratic party (Szende 1933: "Denkfaulheit"; Gruber 1991).

Szende's social epistemology can thus be set within the framework of "production society" in the long nineteenth century (Sarasin 2003). Similarly, the Austro-Marxist Otto Bauer, in his famous article "Marx and Darwin," had argued that "production" and "labor" are crucial concepts in Marx's analysis of society inasmuch as productive labor frees humans from their biological conditions and institutes historical social relations of production (Bauer 1909). With respect to epistemic hygiene Szende distinguished between the physiological conditions of knowledge and the societal measures for overcoming the exclusionary effects of epistemic restrictions. Based on "mental labor," Szende's critical analysis of abstraction and ideology was tantamount to an approach facilitating an antagonistic and productive attitude to physiological restrictions and enabling the historicity and transformation of knowledge.

Szende's and Mannheim's sociologies of knowledge compared

Given that Karl Mannheim referred to Szende's theory of abstraction and ideology in his investigations of the sociological conditions of knowledge and the effects of ideology (Gabel 1991), it is worth taking a closer look at the similarities and differences between Mannheim's and Szende's approaches. It is remarkable that both authors underscored the particularity and relational character of ideologies as well as the essential situatedness of thought (Mannheim 1969, 79–80). Each defined self-criticism as the aim of their sociologies of knowledge. Mannheim, however, approached the relational perspective in a different way. Whereas Szende elaborated on the neurophysiological conditions of habitual and abstractive knowledge, pointing to their societal effects, for Mannheim the most fundamental conditions of knowledge were of a historical and social character. The task of the sociology of knowledge, for him, is to analyze the "metaphysical" conditions of social and historical constellations in which specific empirical possibilities have emerged. In this way, Mannheim drew attention to the minority perspective on knowledge. Analysis of the historical and metaphysical conditions of knowledge, he held, should take the form of self-assessment and critical self-consciousness (Mannheim 1969, 43).

With a view to feminist and situated epistemologies, the philosopher Mona Singer argues that this conception of a critical and value-free self-consciousness is not consistent within Mannheim's relational epistemology of situated knowledge (Singer 2005). Insisting on critical self-consciousness, Mannheim hoped to facilitate encounters and modes of communication among different epistemic perspectives

(Mannheim 1969, 239–241). He intended his sociology of knowledge to contribute to a society characterized by social harmony and consensus (Meja and Stehr 1990, 293). It is remarkable that, although both Szende and Mannheim placed emphasis on the situated character of knowledge, Szende in this regard took a different direction. For him, it would never be possible to reconcile different epistemic perspectives, since physiological needs always entail antagonistic and exclusive effects. Bio-economic tendencies of mechanization, habituation, memory, and abstraction always exclude alternative and ignored experiences. Congdon pointed out that Szende “arrived at a relativism so complete that it threatened his own theoretical position” (Congdon 1991, 263). For Szende, this kind of physiological and economic rationale made epistemic and social reconciliation impossible.

Conclusion

Szende described abstraction as fundamental to living processes, knowledge, and social structures. His sociological perspective on the production of knowledge took into account both the physiological conditions of knowledge and its societal effects. On the physiological level, the self-regulating forces of abstraction underlie the life-sustaining activities of organisms. As to the societal dimension of this abstractive knowledge, involving authoritarian stabilization rather than an organic self-regulation, he criticized the exclusionary and oppressive effects of abstraction and called for corrective measures against the physiological processes of self-regulation. By means of the techniques of interpretation, the hygiene of abstraction, and a pedagogy fostering independent thinking, he proposed three ways of intervening in the harmful effects of abstractive processes in society fostering epistemic and social transformation. In addition, he argued that the neurophysiological “breadth of consciousness” as well as the dissociative faculty that developed only within the “artificial” environments of man-made societal relations afforded epistemic amplifications other than those stemming from the mere bio-economic necessity of abstraction and selective perception.

In a talk on “The problem of regulation in the organism and in society” (1955), the historian of biology and medicine Georges Canguilhem argued for differentiating the concept of regulation in the organic and social realms. In his view, “there is no society without regulation, and there is no society without rules, yet in society, there is no self-regulation. There, regulation is always, if I may say so, something added on and always precarious” (Canguilhem 2012, 77). Social relations are not, for Canguilhem, autopoietic emergences; they are always man-made regulations that needed to be placed in question, negotiated, and transformed.

The close but differentiated relation between the physiological conditions and social effects of knowledge in Szende’s work can be seen in the light of Canguilhem’s views. While Szende argued that, on the level of the organism, selective perceptions represent a life-sustaining self-regulatory necessity, on the level of social relations, abstractions produce antagonistic effects of irreducible social exclusion without the possibility of organic self-regulations. The life of the organism and social life are not governed by the same modes of regulation. For

Szende, the self-regulative function of abstractive perceptions does not have life-sustaining effects in society; instead, he argued that it perpetuates authoritarian regimes and sustains societal exclusions. In the social realm, the physiological necessity of abstraction poses a political problem that needs to be treated in a socio-political context and for the sake of demystification. For Szende, there was no way out of the antagonistic effects of the production of knowledge within societal relations.

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