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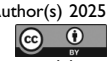

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# ‘Freedom within parameters’: Liberalism, (in)determinism, and the politics of instinct in Sigmund Exner and Sigmund Freud

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**Abstract**

This article explores the relations between politics, science, and personal life in turn-of-the-century Vienna by comparing the psychological work of physiologist Sigmund Exner and his student, Sigmund Freud. Particular attention is given to assessing the role they assigned to instincts as the universal foundation of subjectivity. As will be argued, Exner and Freud brought the concept of instinct as a solution to the sceptical threat still present in the work of their teachers Hermann von Helmholtz and Ernst Brücke. Exner, however, reconceptualized instinct to make it the source of a shared human nature while also removing its strict determinist outlook, thus allowing enough room for the role of experience and education and for human autonomy. Freud originally followed Exner’s indeterminist formulation of instinct but reconsidered his early views and progressively conceived instincts along more deterministic lines in his later work. The analysis will highlight how their conceptions of instincts reflected political struggles facing liberalism at the turn of the century, as well as their attempts at negotiating their own personal identity with contemporary politics, so that their use – and, at times, rejection – of instinct were not only reflective of theoretical positions but also of political events taking place in society at the time and, in particular, as a response to the rise of anti-Semitism and nationalism that directly threatened their place in society and forced them to reconsider their identities.

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## Introduction

Historians of science of fin-de-siècle Vienna have emphasized the emergence of a scientific culture founded on the principles of indeterminism and uncertainty (Hiebert, 2000; Hofer and Stöltzner, 2012; Stöltzner, 1999). This literature has also looked at the political conditions that informed this turn, and in particular at the associations between the rise of liberals to power and the emergence of a culture of indeterminism (Coen, 2007; Hacohen, 2009; Stöltzner, 2002). In *Vienna in the Age of Uncertainty*, Deborah Coen closely follows the case of 'Vienna's foremost scientific dynasty', the Exner family (Coen, 2007: 3), to make the case that at the time indeterminism became a core liberal value against religious dogmatism. The liberal strategy, Coen argued, also risked jeopardizing their nascent political authority by the rising threats of nationalism and socialism. In her account, 'The challenge of liberal science in Austria was to define rationality in such a way as to discredit at once the absolute claims of religion while justifying their claim to knowledge that transcended a narrowly class- or nation-based perspective' (ibid.: 12). The challenge, in sum, was one of how to combine universalism and indeterminism – or, to put it in other words, the challenge was that of how to conceive a subject who shared universal human traits while not unduly restricting human autonotomy and the roles of education and experience.

This article revists these questions by focusing on the psychological work of physiologist Sigmund Exner, and extends this analysis into another liberal scientist, and a student of Exner's, Sigmund Freud. The examination further takes into account the reviews by Malachi Hacohen (2009) and Steven Beller (2010), who criticized the neglect of racial politics and anti-Semitism in Coen's account. Particular attention is given to assessing the role Exner and Freud assigned to instincts as the universal foundation of our shared subjectivity. As will be argued, Exner and Freud brought the concept of instinct as a solution to the sceptical and solipsistic threats present in the work of their teachers Hermann von Helmholtz and Ernst Brücke, whose theories of perception and epistemology emphasized experience and education in the constitution of knowledge.

If knowledge was solely empirically derived, as Helmholtz and Brücke contended, a question was raised of how two persons could share similar experiences. Exner reconceptualized instinct to make it the source of a shared and inherited human nature while removing its strict determinist outlook, and thereby allowing enough room for experience, education, and human autonomy. Despite being generally regarded in the literature as a strict determinist, this article argues that Freud also initially followed Exner's indeterminist formulation of the nature of instinct but that, for reasons we shall explore, he later reconsidered his early views and progressively came to conceive of instincts along more deterministic lines in his mature work.

Although it is not the goal here to reduce these scientific debates to contemporary politics, the analysis will highlight how their speculations on the nature of instincts also reflected political struggles facing liberalism at the turn of the century, as well as their

attempts at negotiating their identities with contemporary politics, so that their use – and, at times, rejection – of the concept of instinct were not only reflective of theoretical positions but also of political events taking place in society at the time and, in particular, as a response to the rise of anti-Semitism and nationalism that directly threatened their place in society and forced them to reconsider their identities.

## 'How to escape into the world of real things': Helmholtz, Brücke, and the empiricist theory of perception

From the beginning of his medical studies, in 1865, Siegmund Ritter Exner von Ewarten (1846–1926) came under the tutelage of the German physiologist Ernst Wilhelm von Brücke. In the early 1840s, Brücke had been a student and assistant of the anatomist and physiologist Johannes Müller in Berlin. Together with his friend and colleague Emil du Bois Reymond, Brücke was a founding member of the Berlin Physical Society, a group whose wide-ranging influence in German science and society in the second half of the 19th century raised them virtually to mythical status in the historiography of science (Fiedler, 1998; Wise, 2018).

After moving to Vienna in 1848, Brücke brought to the city their approach to physiology, which they called 'organic physics', and which they had conceived together with their colleagues Hermann von Helmholtz and Carl Ludwig. Brücke guided his prime pupil to the highest Viennese academic rankings: in 1867–8, he sent Exner for an assistisanship with Helmholtz in Heidelberg. In 1871, only one year after graduating, Exner became a lecturer (*Privatdozent*) based on his recommendation. Exner was appointed extraordinary professor (*ausserordentlicher Professor*) in 1875, and in 1884 was elected to the Academy of Sciences. In 1891, he inherited Brücke's chair at the Institute of Physiology – the object of Freud's loftiest fantasies as a medical student. As a disciple of Brücke and Helmholtz, Exner initially focused on the field of sensory physiology, where he produced important work on colour perception and visual memory, being also – among many achievements – the first to note that the periphery of the retina had the function of perceiving movement (Exner, 1886a, 1886b).[1]

The theory of perception proposed by Helmholtz and Brücke, however, left open a deeply sceptical conclusion. Back in the 1830s, Johannes Müller had formulated the *doctrine of specific nerve energies*, the theory that the different sensory organs were connected to the external world via five different types ('energies') of sensory nerves in the human nervous system, representing each of the five senses. A consequence of the doctrine was that the direct object of sensation was the activity of the sensory organs themselves rather than properties of the external world. The doctrine effectively held that there was a dissociation between the subjective sensation and the objective event causing it, so that what was perceived was not the external cause itself but the nerves impacted by it. As Müller asserted, 'We do not feel the knife which gives us pain, but the painful state of our nerves produced by it' (Müller, 1840: 819).

Helmholtz, another of Müller's students, built upon this doctrine to formulate his theory of perception – the empiricist theory –, articulated in a series of popular lectures as well as in the deeply influential *On the Sensation of Tone* (1863) and the three-volume *Handbook of Physiological Optics* (1856–67). To Helmholtz, there was no relation of

resemblance between the sensorium and its external causes. The act of perception was instead the result of a complex psychological process of unconscious inference onto the causes of percepts, to which the observer never had direct access. Helmholtz often made use of the analogy of perception and the activity of the scientist, where the act of perception was understood as a continuous process of inductive inference – which, he argued, was equivalent to an 'unconscious conclusion' (Helmholtz, 1962[1867]: 4). Repeated experiences of a similar effect enabled one to form inferences about the possible causes of change. The unconscious inferences were signs (*Zeichen*), generated by our active engagement with the effects. Since the signs of perception were generated by a sensory apparatus with specific qualities, as well as the history of the observer's experience and engagement with reality, they were also imbued with the observer's inner qualities and education.

Although Helmholtz accepted Müller's *doctrine*, his research programme in the field of sensory physiology involved rescuing a form of indirect realism while also rejecting the global scepticism and idealism of his teacher. Since his first publication on the topic, the 1855 Kant memorial address *On Human Vision*, Helmholtz presented his central question as 'How is it that we escape from the world of the sensations of our nervous system into the world of real things?' (Helmholtz, 1903[1855]: 116). The empiricist theory of perception he formulated in the following decades can be seen as defending a form of epistemic structural realism, the view that structural relations between simple perceptual properties conveyed knowledge of structural features of reality (Kremer, 1994; Niro, 2022).

Timothy Lenoir has made the case that the turn to realism represented in the work of these physiologists was a liberal reaction against the perceived conservative idealism of their predecessors, and seen by the organic physicists to be personified in the figure of Müller (Lenoir, 1997, 2018). While Helmholtz stressed the centrally formative role of experience in the generation of the perceptual image, Müller had instead defended a position that Helmholtz called 'nativism' – the theory that concepts, mental capacities, and mental structures were innate rather than acquired.[2] Müller and the organic physicists sat not only on opposite sides in the 'nativism-empirism' debate (Hatfield, 1990; Turner, 1994) but also politically, in particular during the Prussian revolutions of 1848 (Cahan, 2018; Finkelstein, 2013; Lenoir, 1997, 2018; Otis, 2007). While Müller's politics largely followed a conservative monarchism, the organic physicists, especially after 1848, defended instead a 'moderate liberalism' that avoided party politics in favour of a politics of culture, and which stressed social change by acting within the law (*gesetzliche Freiheit*), particularly through education, rather than via political action or revolution. A theory that emphasized learning, experience, and education in the act of perception can be seen to share those liberal values.

If, according to the doctrine of specific nerve energies, the observer did not have direct access to the causes of the sensorium, but only indirectly via its effects on the senses, the only possible relation between perception and the external world, according to Helmholtz, was that of a 'practical truth' (Helmholtz, 1962[1867]: 443) – that is, that when we learn to interpret the signs of perception, we are capable of guiding our actions in the world in expected ways. In an exchange with physicist Michael Faraday, Brücke defended a similar perspective:

> Man stands before the external world as a *camera obscura*, on the screen of which Nature perpetually casts her images; we cannot understand these images in themselves, nor the objects from which they proceed; but we see that under the same circumstances, the same images always appear, and this regularity of their appearance permits us to determine them beforehand. (Brücke, 1858: 82–3)

Their answer, in short, was that similar causes generated similar effects – or, to put it more precisely, that similar sensory effects likely referred to similar external causes – which indicated a lawful relation. Although we do not have direct access to the properties of external reality, we have access to the relations between such properties.

As much as we may be able to understand the laws governing the event for us, Brücke and Helmholtz were also forced to acknowledge that by their own account the nature of reality beyond the sensory organs remained forever unatainable. Brücke, in his studies on sensory physiology, further stressed the disconnection between subjective perception and objective outer reality, particularly in the case of colours. In his studies on microscopy and histology, he emphasized the dissociation between the reality of the object studied and the perception under the microscope (Brücke, 1861; Brücke and Liu, 2024; Liu, 2024; Schickore, 1999). Helmholtz, in turn, in a lecture titled *Facts on Perception,* was forced to accept that

> I do not see how it would be possible to refute a system of even the most extreme subjective idealism, which would consider life as a dream. One may declare it to be as improbable, as unsatisfactory as possible – and in this connection I would agree to the harshest expression of repudiation – but it could be consistently feasible and it seems very important to me to keep this point in mind. It is well known how ingenuously Calderon treated this theme in his play 'Life, a Dream'. (Helmholtz, 1968[1878]: 224)

There was therefore no logical refutation to subjective idealism – the theory that only minds and mental contents existed – and the sceptical and solipsistic threat was never completely overcome.

## Conceiving the liberal subject: Sigmund Exner's indeterminist theory of instincts

The social and political circumstances in Vienna at the turn of the century brought this fundamental problem of knowledge to relevance in liberal circles. If the new constitution from 1867 marked the liberals' ascent to the highest levels of political power in Austria, by the 1880s they had come to be seen as the establishment – which in turn led to increasing criticism by the rapidly rising nationalist movements. The perceived alliance between Judaism and liberalism, given the emancipation and integration of Jews brought about by liberal policies in the previous decades, had become a particular target of anti-Semitic attacks.

Hacohen rightly notes that the Exner clan, which included the empire's most prominent educational reformer, Franz Exner (Sigmund's father), and two rectors of the University of Vienna, Adolf and Franz-Serafin Exner (Sigmund's brothers), 'presided over a university that made the mercurial Jewish rise in the professions possible'

(Hacohen, 2009: 379). This was particularly true in the case of the medical school, given that the proportion of Jewish students rose from 30% in 1869 to 61% in 1884 (Cohen, 1996: 166), a subject treated by the rector Theodor Billroth – a teacher to both Exner and Freud – in his notoriously anti-Semitic report *On the Teaching and Learning of the Medical Sciences at the Universities of the German Nation* (Billroth, 1876; Seebacher, 2006a, 2006b).

Despite their Catholicism, the Exner clan had a half-Jewish origin via the family matriarch. Charlotte Exner (née Dusensy, 1814–59), Sigmund's mother, was a woman from a Jewish family who had converted to Catholicism, and although an 'open secret', it appears to have been subject to what Steven Beller calls a 'familial conspiracy of silence' (Beller, 2010). The rising anti-Semitism of the 1880s, and in particular its shift from cultural to racial anti-Semitism, would further challenge the Exners' capacity for assimilation. Beller further noted that rumours circulated among anti-Semites about Crown Prince Rudolf having been corrupted by the ideas of his 'Jewish' tutor, Sigmund's brother Adolf Exner, while Hacohen explains that their partial Jewish descent would later be sufficient for the Nazis to remove some of their children from their academic positions (Beller, 2010; Hacohen, 2009). In the Exner case, therefore, universalist liberalism had become not only a political ideal but also a strategy for the survival and adaptability of the family in an increasingly inhospitable environment.

Aside from the rising anti-Semitism, the ethnic, linguistic, and religious heterogeneity of the Austro-Hungarian Empire posed an added problem to the liberals' claim for universality that made it more pressing than in Germany. Was there a shared foundation that linked all these groups together, or, as the nationalists increasingly insisted, should one instead conceive of indelibly different national and/or ethnic psychologies? For Sigmund Exner, therefore, in attempting to defend the endangered liberal view, overcoming solipsism had become not only a scientific problem but also a political and personal challenge. Science, politics, family, and selfhood were inextricably interwoven, and his scientific project can be interpreted as an attempt to rescue the possibility of a shared world by conceiving a subjectivity that was not merely reflective of personal idiosyncrasy but which strove for universality, while also avoiding any form of strict determinism that would unduly restrain individual autonomy. As we shall see, he turned to Darwin to solve that problem.

As we have seen, the question guiding Exner's research in sensory physiology was that of what is shared in perception. If the perceptual image was formed by education, as Helmholtz and Brücke contended, how could different people have broadly the same experience? One obvious solution to the problem would have been to turn to nativism. If subjective experience was determined primarily by inherited and innate cognitive capacities, this would also imply that all beings born with those capacities share at least similar experiences of reality. Nativism would, however, also potentially lead to determinism and to the religious dogmatism that Exner rejected, and his problem in turn can be interpreted as that of how to mediate between nativism and empiricism, avoiding both the determinism implied by nativism and the solipsistic consequences of the empiricist position. In short, the question was that of consiliating nativism and empiricism, as well as universalism and indeterminism.

For Exner, subjectivity was not translated into personal idiosyncrasy (and, ultimately, into solipsism and global scepticism), but rather was an experience shared by subjects with a common sensory apparatus and faculty of reason. Uncovering the sources of our universal shared experiences would in turn become a research programme. Deborah Coen explored some of the challenges Exner faced when conceiving of a common sensory apparatus, particularly regarding colour perception, the subjective phenomena par excellence (Coen, 2007: 224). The challenge, however, was not restricted to conceiving of a common sensory organ, but predominantly of a common faculty of reason that structured perception, cognition, and morality. Or, to put it another way, the challenge was that of conceiving how perception, cognition, and morality were intrinsically interwoven and organized by a shared constitution. In his *Project for a Physiological Explanation of Psychical Phenomena*, Exner articulated a general physicalist psychology that identified mental processes with specific 'neuronal networks' and encompassed all of the above (Breidbach, 1999; Exner, 1894; Niro, 2023). There, he proposed a theory of perception that built upon Helmholtz's empiricist theory while trying to account for the intricacies of the mechanism of unconscious inference, which Exner believed to have encountered in his distinction between primary and secondary sensations.

A primary sensation, according to Exner, was a sensation still in its unconscious state and processed subcortically. The process that generated the experienced and conscious (or secondary) sensation was an unconscious inference, taking place between the subcortical ganglions and the cortex as 'the organ of consciousness' (Exner, 1894: 225).[3] The process of unconscious inference followed the logic of the facilitation (*Bahnung*) of alike sensations and the inhibition (*Hemmung*) of disparate – that is, similar primary sensations were connected in complexes of associations of nervous fibres that facilitated the emergence of secondary sensations to consciousness, while disparate sensations were inhibited and remained unconscious.[4] This process regulated the emergence of complexes of neuronal excitation (*Erregungscomplexe*) that appeared subjectively as conscious perceptions. Although Exner indicated that unconscious inference was a learned process, he also claimed that the disposition (*Neigung*) to make such inferences was innate. In doing so, he turned to a similar argument he had originally developed two years prior in a different context.

Recently instated as chair of physiology, Exner gave an address to the Imperial Academy of Sciences titled *Morality as a Weapon in the Struggle for Existence* ('*Die Moral als Waffe im Kampfe ums Dasein*'), where he sought to treat the 'foundational principles of ethics' from a 'biological point of view'.[5] In the lecture, Exner traced direct parallels between his views on perception and morality: much like perception could not be wholly solipsistic, morality could not be fully relativistic. Exner introduced a theory of instincts as the solution for articulating a concept of subjectivity that included an inherited and universal structure while also not excessively restricting human autonomy. In mankind's 'struggle for existence' over thousands of years, he argued in direct reference to Darwin, instincts had been developed for the purpose of the protection of the individual, of its progeny, and of society.[6]

Exner contended that instincts provided the general dispositions of any associative process, and in particular of associations between sensations running along the

pleasure–displeasure series together with representations. The sensation of disgust, for instance, was an innate instinct with the purpose of protection of the individual, which was associated with particular representations through individual experience but had a general disposition to be associated with contents that could be 'harmful' or 'dangerous'. Similarly, he maintained, moral sensations (Exner cited compassion, or *Mitleiden*) had general dispositions provided by 'social instincts'. This allowed him to conclude that 'the concepts of good and bad, of virtue and vice are based on sensations that belong to the social human instincts' (Exner, 1892: 252).

Exner's conceptualization of instinct contrasted with that of many of his contemporaries. In *On the Concept of Instincts* (*Über den Begriff des Instinkts*), zoologist Heinrich Ziegler, a former student of August Weismann and assistant of Ernst Haeckel, maintained that

> ...the main characteristic [of instinct] consists in the fact that the drive [*Trieb*] and the ability to accomplish an instinctive action belong to the species – or the races – inherited properties. *The most obvious manifestation of an instinctive action being the fact that it is performed by all normal individuals in an almost similar manner.* If the instinct only appears in an incomplete form – as a drive – this drive appears at the least among every normal individual of the same age, and in the same manner. (Ziegler, quoted in Cotti, 2008: 28; emphasis in original)

In other words, for Ziegler and many biologists of the time, instincts constituted a form of strict determinism of behaviour and mental life – which in many cases were translated into racial theories, and often leading to eugenic projects.

Exner instead seems to have agreed with Wilhelm Wundt's concept of instinct as 'a change in temper which tended to manifest itself in external bodily movement' (Wundt, 1893: 507). His use of the term *disposition* to describe the action of instincts also indicated the influence of Darwin, who had conceived of instincts as a 'general disposition of individuals of the same species' to act in similar ways, but whose nature necessarily included a great number of 'inherited variations … of all shades of disposition' (Darwin, 2008[1859]: 159).[7] Unlike authors such as Albert Moll, who conceived instinct as 'a disposition that makes everyone act in an identical manner … by the powerful urge [*Drang*]' (Moll, 1897: 68), Exner instead was emphatic that the disposition present in instinct did not amount to a compulsion (*Zwang*) to act (Exner, 1894: 370).

Exner indicated that instincts were located in the evolutionarily older subcortical ganglions of the spinal cord and brainstem, since these mediated functions that had assumed a 'generalising type over the course of thousands of generations', whereas the phylogenetically younger cortex was 'plastic' (*plastisch*) and preserved impressions made throughout the course of an individual life (Exner, 1894: 345). This places Exner among the pioneers in the use of the concept of neuroplasticity.[8] As philosopher Catherine Malabou defines it, plasticity describes the work of a 'brain that engages with history and individual experience', that is, it conceives the brain as something 'modifiable, "formable", and formative at the same time', as well as capable of alteration by development, experience, or injury (Malabou, 2008: 4–5). Neuroplasticity allowed Exner to conceive the nervous system as composed of 'hard' subcortical elements, which contained the instincts inherited by the species, together with a 'soft' cortex that amplified the

role of experience and personal autonomy – thus providing the brain with 'freedom within parameters':

> The essential importance of the cerebral cortex, as has already been pointed out, lies in its ability in the course of an individual's life to establish ample pathways between different areas of ideational complexes. This presupposes a *certain freedom* from fixed pathways, which is undoubtedly present. If in the foregoing I have assumed that dispositions to associations are innate, observation of psychic life urges me to do so. *That freedom is not absolute*. The cortex only develops its *freedom of association within certain parameters.* (Exner, 1894: 370; emphasis added)

If Exner amplified indeterminism in our psychical constitution by reconceptualizing instincts and emphasizing the role of personal experience, he also tamed indeterminism by conceiving a normative view of education. Considering that the function of social instincts was that of the protection of the group, he would claim that the purpose of education was (or rather, ought to be) that of 'associating the right representation with the right sensation', thus forming the basis for a 'healthy' morality (Exner, 1892: 249). Such a view of the function of morality and education was further developed into an ethic, where society was given precedence before the individual. An act was moral, Exner wrote, because it was useful to society, something that was summed up in the notion of duty (*Pflicht*):

> Man must always answer Kant's 'from where do you [duty] come?' through that Fechnerian Spirit that in him thinks 'from another centre than his own', i.e., never on the basis of the experience of the person, always on the basis of the experience of the whole. (ibid.: 253)

Exner suggested that we revert to the ancients, and introduced the Oedipal myth to make his case. The fate of Oedipus, he maintained, was puzzling to modern readers since the hero was unconscious of his acts. To modern culture, only a conscious action could be sinful: 'The new moral intuition is a compromise between objective nature and psychology, between society and the individual, by which the latter surely wins at the moment – a win however at the expense of the first' (Exner, 1892: 268–9). Exner saw morality as a battleground between our 'objective nature', which prioritized societal values over those of the individual, and a psychology that privileged personal intentions – a battle in which he certainly prioritized the first (albeit losing) side. His recourse to a classical play in this sense had the purpose of providing evidence of the naturalness of objective morality via the aesthetic evocation of a universal tradition. Unlike Freud, who turned the hero into a torn and conflicted modern individual, Exner sought in Oedipus a *Rex* who would bring order and objectivity to an unstable world. The ancients, Exner maintained, knew that Oedipus was rightly punished. Modernity, on the other hand, had started to judge individuals based on private motives, losing touch with this natural truth (Exner, 1894: 357). Subjectivity had run unfettered, and its impact was being experienced in current social events.

## Heredity and degeneration: Freud's early rejection of drive

Freud came of age during the Liberal Era (1862–79), 'that short period in the history of Austrian liberalism when the political union of all Germans was not on the agenda and when the hegemony of the Austrian idea and the cultural definition of *Deutschtum* were not in question' (Hacohen, 2009: 389). He started his career, however, during the period of resurgent nationalism – something that was at least a partial deterrent to his academic ambitions.[9] The rise of nationalism led Freud, who until the early 1880s demonstrated a positive view of assimilation and affiliation to both German and Jewish identities, to develop a specifically Jewish pride (see Klein, 1981). In spite of that, Freud retained many of the values of mid-century liberalism throughout his life: contempt for aristocracy, hostility to religion, belief in the civilizational power of science, admiration for England – and particularly Oliver Cromwell, after whom he named his second son. As late as 1930, he would tell his friend Arnold Zweig that 'I remain a liberal of the old school' (Freud and Zweig, 1970: 21). His political views reflected those of his educated *Bildungsbürgertum* cohort in the medical school – arguably aspirationally, since he came from a significantly humbler economic background than his peers – by following a 'moderate liberalism' that demonstrated scepticism of more progressive and socialist movements, as well as of political action.[10]

Many of the principles of liberal science guided Freud's thinking throughout his life, and in particular, the attempt to conceive a model of subjectivity that accounted for the universal foundations of our shared psychic reality while also emphasing experience and education. Much like Exner, Freud developed an empiricist model of subjectivity whereby education and personal experience provided the form and contents of subjectivity, without, however, translating these directly into complete personal idiosyncrasy and individual solipsism. Like Exner, Freud anchored his conception of human shared experience in a theory of instincts, explaining these as resting on a foundation of biological mechanisms, transmitted by use-inheritance, and which guided morality.[11] Drives, for Freud, provide the dispositions of both psychic and social life, explaining, for instance, the particularities of our choice of objects, the general patterns of development (i.e. the psychosexual stages), and the universality of the Oedipus complex – which, with Freud, would be turned into the centrally defining event structuring both subjectivity and society.

Although Freud's first written reference to the concept of *Trieb* appears in a letter to Fliess from June 1894, where he mentions a *Sexualtrieb*, he would not formulate the concept in the way it later came to be understood until his reading of Albert Moll's *Libido Sexualis* in 1897, when he abandoned his 'neurotica' (i.e. the seduction theory), and the term became synonymous with libido and connected to his new theory of neuroses as caused primarily by instinctual repression.[12] Drive dualism, which Freud derived from the work of his teacher Richard Krafft-Ebing, would not appear until 1899 in the third chapter of *The Interpretation of Dreams*. Until 1897, Freud showed great hesitancy in using the concept. As we know, at the time he greatly emphasized the role of trauma in the aetiology of nervous disorder.

Freud's early rejection of drive theory in favour of a theory that stressed personal experience was not only reflective of a theoretical position. Precisely at a time when

doctrines of degeneration had become predominant in medicine (Pick, 1989), Freud's attempt to circumscribe the role of heredity in the aetiology of mental disorders was somewhat unorthodox. Until the early 1880s, he seemed to accept theories of mental heredity rather uncritically. By the mid to late 1880s, his attitude had changed, and by the 1890s his position had taken a complete turn. I agree with Larry Stewart (1976), who maintains that this shift was particularly related to Freud's rejection of the racialized view of degeneracy that he encountered in Paris in 1885 while studying with Charcot, an admirer of the theorists of *dégénérescence* Morel and Moreau de Tours (cf. Walusinski, 2020). Charcot's famous dictum that '*le malade n'est qu'un épisode, l'ennemi c'est la famille*' (the patient is only one episode; the enemy is the family; Charcot, 1887: 10) is exemplary of the views that anti-Semitic literature, such as Edouard Drumont's bestseller *La France Juive* (1886), would employ to argue that the neuroses were a particular disorder of the Jews, citing statistical evidence to argue that the rate of mental illness among Jews was higher than among the Christian populations of Bavaria and Italy.

The 1880s also marked a period of resurgent nationalism in Austria and its shift from cultural to racial anti-Semitism. Freud himself experienced and witnessed a number of anti-Semitic episodes while working at the general hospital at the time, which led him to re-evaluate his attitude towards his identity. In his student years, Freud professed allegiance to both his German and Jewish identities: he changed his name in either 1869 or 1870, and as a medical student was affiliated to the German-nationalist student society *Leseverein der deutschen Studenten Wiens* (between 1873 and 1878, when the society was shut down), as were most of his teachers and colleagues. Dennis Klein sees Freud in this period as holding a positive and hopeful view of assimilation, seeing modern humanistic Judaism as a complement to German liberalism. This would change in the early 1880s due to his experience at the general hospital, and especially due to the rise of racial anti-Semitism – which engendered a feeling of dislocation and pessimism towards the possibility of assimilation. His twofold pride as German and Jew vanished, and a discomfort with being a Jew took its place. In the mid 1880s, Klein observes a final change, with a declared shift from German to Jewish allegiance and the emergence of Jewish pride, due primarily to the influence of Breuer (Klein, 1981).[13]

Freud's early rejection of drive is also not explained by politics or as a reaction against anti-Semitism alone. Between 1882 and 1885, he worked in the psychiatric institute led by Theodor Meynert, who had equally rejected drive theory by claiming that 'there is such a thing as feelings of hunger, but no such thing as a hunger drive' (Meynert, 1890: 184). Meynert defended a strictly neurophysiological but empiricist theory of psychiatry, whereby the cortex was seen as the seat of consciousness and as a blank slate, ready to be scripted by personal experience and education. He established that an association of ideas was identical to an association of nervous fibres in the brain, which effectively amounted to one of the first theories of mind–brain identity (Hlade, 2018, 2019) and to the view that 'psychiatry is the doctrine of diseases of the forebrain in its connections and arises scientifically only with a detailed knowledge of the brain and its performance' (Meynert, 1884). That being said, it is indicative of Freud's conflicting views that, despite considering Meynert a 'mediocre' psychiatrist (Freud and Bernays, 2011: 503) and Charcot 'one of the greatest of physicians and a man whose common

sense borders on genius' (Freud and Bernays, 2019: 450), Freud still sided with Meynert's empiricist views on the aetiology of mental disorders. In the 1880s, the empiricism of Meynert provided a cogent option against racialized doctrines of degeneration. The question of inheritance, however, continued to pursue Freud in the following years, and the inclusion of drive would come precisely to overcome these challenges.

## The sexual drive and the liberal polymorphous subject

Freud's thought was marked by a lifelong commitment to bridge a series of dichotomies: trauma vs. drive, seduction vs. fantasy, external vs. psychic reality, society vs. nature, ontogeny vs. phylogeny, experience vs. heredity. These dichotomies constituted the horizon of possibilities of his ideas, and the often highly original and creative (even fantastic) solutions he developed to bridge them were framed by the way he posed the problems in the first place. As he would soon find out, an aetiological theory founded exclusively on the experience of early childhood did not fully explain his clinical cases, let alone the sheer number of them. Could they all truly be caused by a traumatic experience of seduction in infancy? His clinical work started proving otherwise, and he progressively moved away from the realm of the exogenous and into that of endogenous causation: hence, his turn towards internal motivations, psychic reality, fantasy – and also towards heredity and drives.

Simultaneously, in the mid to late 1890s, and partly motivated by his clinical findings, Freud's interest shifted from exclusively exploring the aetiology of the neuroses to the development of a complete psychology – first articulated as a physiological psychology founded on Exner's (i.e. the *Project for a Scientific Psychology*), and finally culminating in Chapter 7 of *The Interpretation of Dreams*. By taking on that task, he was forced to contend not only with the question of how a pathological structure could be developed in one patient or a class of patients sharing similar symptoms, but also with issues regarding our shared mental constitution.

As previously noted, Freud adopted the concept of instinct from sexology – in particular Moll and Krafft Ebbing – and his use of the term *Trieb* rather than *Instinkt* is reflective of his engagement with that literature. From the beginning, however, Freud subverted the meaning of the concept by reconceiving it in indeterministic terms, arguing instead – after Exner – that drives were the expression of inherited dispositions. In themselves, drives had neither aims nor objects, and their operation did not amount to a determinism of mental life (Freud, 2017: 10–11). Unlike Moll and Krafft Ebbing, who argued for the inherited constitution of perversion, Freud maintained that

> there is indeed something innate lying at the basis of the perversions, but that is *something innate in all human beings*, though as a disposition [*Neigung*] it may vary in its intensity and may remain lie dormant, waiting to be brought to the fore by life experiences. It concerns the constitutional roots of the sexual drive. (ibid.: 32; emphasis in original)

Rather than seeing perversion as the outcome of a specifically hereditary constitution, that is, of an innately perverse drive, Freud defended instead the notion of a universal perverse disposition founded on the sexual drive, which he conceived in a non-functional and non-teleological way. That is, the drives were conceived neither in terms of their supposed

reproductive function, nor in terms of an inherited trajectory of development that would explain the development of 'normal' sexual behaviour and perversion as a pathological deviation of the reproductive function.

In the first edition of *Three Essays*, Freud stressed the central differentiation between the genital (*Geschlechtstrieb*) and the sexual drives (*Sexualtrieb*) – the first referring to the object-related, genitally organized, and reproductive drive of post-pubertal sexuality, and the latter to non-reproductive, autoerotic forms of sexuality, where the genital zone did not play a leading role, predominantly (but not exclusively) present in infantile sexuality (Van Haute and Westerink, 2020: 24–5). Freud spent much of the work describing the functioning of these two regimes of sexuality but was forced to acknowledge that 'the intermediate steps are still in many ways obscure to us' (Freud, 2017: 62). At this stage, in other words, Freud had not yet conceived sexuality developmentally, as he would in the following editions.

Sexuality, in the first edition, was still conceived as an aimless natural force motivating life rather than as a psycholological process structuring personal identity, as it would become after the inclusion of the theory of the psychosexual stages. And considering that the original sexual drive was aimless and objectless, it was also in itself perverted – that is, it was the source of the originally 'bisexual' (Freud, 2017: 7) and 'polymorphous perverse' dispositions (ibid.: 50, 83). Drives, understood as indeterministic dispositions, were the conceptual tool Freud needed to conceive a subjectivity whose universal shared foundation was largely formless – effectively, polymorphous –acquiring its peculiar shape and content only after puberty.

It cannot be ascertained to what extent Freud was effectively impacted by Exner's views on instinct, since he rarely cited his colleagues and teachers from the Institute of Physiology, but the impact is likely to have been significant.[14] Freud had been a student of Exner during his first years of medical school, having taken his courses on 'Spectroscopy' (*Spektralanalyse*) and on the 'Physiology of the Senses' (*Physiologie der Sinne*) in 1876–7. He proceeded to spend five years (1877–82) working at the Institute of Physiology, at a time when Exner was the leading assistant and effectively in charge of the everyday operation of the lab. Although the two did not seem to have developed a particularly close relationship, they shared a common social circle, which included key figures in Freud's life such as Josef Breuer, Josef Paneth, and Ernst Fleischl von Marxow (Hirschmüller, 1989; Medwed, 1997; Paneth, 2007). Freud was also a member of the Physiology Club (*Physiologicher Verein*), co-founded by Exner, where he presented his research six times in the 1880s (Exner, 1893: ix). Freud cites Exner in *Critical Introduction to Neuropathology* (2012), and he explains that the impetus for the writing of his monograph *On Aphasia* (1953[1891]: 66, n. 1), a book with strong influences of Exner's monograph on brain localization (Exner, 1881), was sparked by a study conducted by Exner and Paneth (Exner and Paneth, 1887). Finally, Exner's 1894 *Project* clearly served as the initial template for Freud's own *Project for a Scientific Psychology* (Freud, 1966[1895]), written the following year.

## The long deterministic turn: Drive, identity, and inheritance

Freud's views on drive would, however, start to change again around 1912–13, when his interest moved towards conceiving a theory of development that culminated with the

Oedipus Complex as the central event in the formation of identity, as well as in exploring the phylogenetic origins of the Oedipus Complex and other predispositions in our shared ancestral experience. A wide range of factors played a role here, both internal to psychoanalytic theory and in response to external events.

Externally, three main factors stimulated this exploration. First, the expansion of psychoanalysis abroad and the formation of the International Psychoanalytic Association forced him to reconsider the transculturality of his views. Further, Freud was growing increasingly fearful that psychoanalysis would be identified as a Jewish science – especially after the divorce from Jung.[15] Finally, the war also played a central role. On the one hand, Freud complained during the war of loneliness and idleness, being isolated from his colleagues in war zones, which engendered a period of reflection and creativity analogous to the 1890s (see Grubrich-Simitis, 1988).[16] On the other, he seemed particularly invested in investigating the permanence and the persistent survival of personal and social conflicts. It is also unsurprising that a world war would make him reconsider the sources of our commonalities and differences.

Internally, the dispute with Jung played the most defining role. In *Tranformations and Symbols of Libido* (*Wandlungen und Symbole der Libido*, translated as 'Symbols of Transformation'), Jung posed a challenge to Freudian theory by reconceiving libido as an undifferentiated general psychic interest that becomes sexual only after puberty – effectively rejecting the existence of infantile sexuality and siding with the approach to sexuality Freud had opposed (Jung, 1967: 132ff.). This led Freud into a fully fledged defence of the sexual nature of the drives in the following years, culminating in the second edition of *Three Essays*, from 1914, and the publication of *Instinct and Their Vicissitudes* (1915), where he reconceptualized the drives by anchoring them in a developmental theory that sought to bridge the dichotomy between the two regimes of infantile and genital sexuality.[17]

Although at this stage Freud still argued for the indeterminacy of the drives, by maintaining that they were innate dispositions that did not inherently have objects and whose aims were not reproductive but merely pleasure-seeking, his reconceptualization ended up by (perhaps inadvertedly) embedding the theory of the drives in a predetermined developmental trajectory absent in the original formulation from the 1900s – and to a large extent antithetical to the original proposition – whereby the 'vicissitudes' of the drives (i.e. their psychosexual stages) are teleologically organized, at least as inherited potentials of psychic development.[18] If drives had a predetermined developmental trajectory that universally culminates in the Oedipus Complex, this means this implies that its objects are innately given as the final causes of the process of psychosexual development; it also entails that they ultimately do indeed have a reproductive function. Along those lines, perversions now started to be treated not only as the original nature of sexuality and an alternative regime of sexuality, but rather as developmental disorders (Van Haute and Westerink, 2020: 58–63). This reconceptualization also motivated Freud to simultaneously investigate the phylogenetic origins of the inherited objects and those of the developmental trajectory.

In this period, as examined in greater length by Ilse Grubrich-Simitis (1988), Freud turned to arguments of use-inheritance and the inheritance of memories as a strategy to overcome the dichotomies trauma–drive and experience–heredity. Thus, in works such

as *Totem and Taboo* (1913) or the posthumously published *Overview of the Transference Neuroses* (Freud, 1987[1915]), Freud speculated that the drives were themselves moulded by the trauma of ancestors through shared experiences of radical change in climate, existential threat, persecution, hunger, expulsion, castration, and the killing of the primal father. Use-inheritance became an essential argumentative strategy in his attempt to overcome the dichotomies trauma–drive and experience–heredity, hence his declaration that 'I cannot do without this factor in biological evolution' (Freud, 1964[1939]: 100). Use-inheritance allowed him to conceive of ontogeny as a recapitulation of phylogeny, and experience as something transmissible through biological inheritance. Although ultimately a failed and unpublished attempt, *Overview* set a trend that would be continued in works such as the *Introductory Lectures* (1915-1916), *The History of an Infantile Neurosis* (1918), *Beyond the Pleasure Principle* (1920), and finally *Moses and Monotheism* (1939), where Freud made increasingly central the role of inherited memories in the explanation of the origin of psychological processes like the primal scene and, in particular, of the Oedipus complex.

Freud's first mention of the Oedipal conflict dates from 1897, not coincidentally the same year as his introduction of drive. From the very beginning of its formulation, he had already emphasized its universality:

> A single idea of general value dawned on me. I have found, in my own case too, [the phenomenon of] being in love with my mother and jealous of my father, and I now consider it a universal event in early childhood.… If this is so, we can understand the gripping power of Oedipus Rex, … the Greek legend seizes upon a compulsion which everyone recognizes because he senses its existence within himself. Everyone in the audience was once a budding Oedipus in fantasy and each recoils in horror from the dream fulfillment here transplanted into reality, with the full quantity of repression which separates his infantile state from his present one. (Freud, 1985: 272)

The origin of the universality of the Oedipal scene would continue to occupy Freud's thoughts in the following decades. In *The Interpretation of Dreams*, he argued that if the play moved a modern audience as it had a Greek one, there 'must be something which makes a voice within us ready to recognize the compelling force of destiny in the Oedipus'. This voice, he continued, sprang not from the play itself but from 'some primaeval dream-material which had as its content the distressing disturbance of a child's relation to his parents owing to the first stirrings of sexuality' (Freud, 1953[1900]: 263). That is, according to Freud, it was not the conflict that was modelled after the myth but rather the reverse: the origin of the myth lay in the universal primaeval psychic conflict shared by all. At this early stage, however, the Oedipal conflict was not yet conceived as a complex –as a developmental phase that structured the psyche and its inscription into culture – but rather as an 'archetype' of the modern neurotic subject. It was only in the 1910s, after abandoning the strict dichotomy between infantile (autoerotic) sexuality and pubertal (objectal) sexuality, and by constructing its passage along psychosexual developmental lines, that the complex became a theoretical possibility (Van Haute and Westerink, 2017: lv).

Freud, however, still needed to account for the specificity of the Oedipal scene, repeated in great detail in every 'normal' case of development. In *Totem and Taboo*, he traced its origins evolutionarily back to the murder of the father of the horde, an episode that purportedly first engendered a sense of guilt in his sons, an experience that was henceforth transmitted by the inheritance of acquired memories (Freud, 1955[1913]: 143). As he would remark some years later, the inexorability of Oedipus lay in the 'phylogenic memory-trace … from the prehistory of the primal family, when the jealous father actually robbed his sons of his genitals if the latter became troublesome to him as a rival with a woman' (1964[1940]: 90n). It was this phylogenetic traumatic experience that Freud claimed each young boy would recapitulate in his own psychosexual development.

Freud's theorization of use-inheritance took place particularly in the context of his exchanges with Sándor Ferenczi. Between 1916 and 1918, they planned a co-authored monograph, titled in letters as 'Lamarck and ΨA [Psycho-Analysis]'. Freud mentioned having started reading Lamarck's *Zoological Philosophy* in 1917, but their enthusiasm quickly waned. It was hard to get hold of the bibliography during the war, and Freud ultimately felt like he could not add anything completely new. As the war ended, the pair moved on to other writing projects. Although the book never materialized, its legacy survived in Freud's *Beyond the Pleasure Principle* (1920) and Ferenczi's *Thalassa: A Theory of Genitality* (Ferenczi, 2018[1924]). In both of these works, we observe a shift from a theory of metapsychology towards a theory of metabiology (Grubrich-Simitis, 1987).

In *Beyond*, Freud apologized to the reader for the indefiniteness of the concept of drive, maintaining that 'the deficiencies in our description would probably vanish if we were already in a position to replace the psychological terms by physiological or chemical ones' (1955[1920]: 60). This implied that psychology could be fully exhausted by physiology, a type of biological reductionism he had rejected in the early 1900s (e.g. Freud, 1953[1900]: 536). The second drive theory marked a shift not only towards biology but to yet greater determinism – now openly reflected in the terminology employed to describe the functioning of the drives. There, he redefined drive by maintaining that it was not only the source of a mental disposition but that it acted as an urge (*Drang*) inherent to life (1955[1920]: 36), effectively using the same terminology as Moll (1897: 68). Further, if Exner and the early Freud had maintained that an instinct represented only a disposition that never amounted to a compulsion (*Zwang*), for the late Freud it was an inherent mark of drive that it brought with it a compulsion to repeat (*Zwang zu Wiederholung*), as well as an invariable striving towards death. Finally, the argument for the inheritance of memories implied that drives contained not only dispositions, as Exner maintained, but also innate memories and objects – a view Freud started to defend more openly at the time.[19]

Freud's investment and resoluteness in his belief in use-inheritance and the transmission of memories, despite the growing scientific consensus to the contrary from the 1920s, cannot be explained by scientific reasons alone, but must also be understood against the background of the rise of nationalism and socialism in the interwar period. As Eliza Slavet has argued at greater length, inherited memory was a cogent argumentative strategy for universalizing his theory beyond the specific cultural milieu of his mostly Jewish bourgeois patients and colleagues. During the 1920s and 1930s, use-inheritance

came to be seen as a claim that human groups (including racial groups) were malleable, and was therefore a particularly useful assimilationist strategy. Freud's use diverged from this, however, since rather than defending a strategy of assimilation, he argued instead for the universal inheritance of a shared history of trauma (Slavet, 2008).[20] That is, rather than arguing for the capacity for assimilation (or 'Germanization') of the Jewish people on the basis of biological mechanisms of adaptation, Freud argued for a universal human nature founded in the drives that carried and recapitulated the (traumatic) history of the species in each individual.

## Education and heredity, Moses and the 'Jewish science'

Helmholtz and Brücke stressed the intimate links between perception and memory by establishing that the education of senses is a prerequisite in the act of perception. Exner, in turn, maintained that education structured not only perception but also cognition and morality, while introducing instincts as an antidote against solipsism – regarding instincts as the fundamental sources of our shared experiences. Exner, however, reconceptualized instincts indeterministically as innate dispositions. From the late 1890s until the 1910s, Freud followed Exner in viewing drives as innate dispositions that in themselves lacked both aim and object, discovering these only through experience. In his later work, motivated both by internal theoretical disputes and external events, however, he embedded his theory of drives into a theory of psychological development, whereby the developmental trajectory was seen to be innately predetermined.

If the developmental trajectory was predetermined, this meant that both the aims and the objects of the drives were inherited, at least as potentials to be discovered through personal experience. Freud then progressively shifted his conception of drives by proposing that they were the source of our shared experience because they were the carriers of the history of the species. In short, if drives were in his first theory conceived as a largely formless foundation of mental life that acquired its shape and content only through personal experience, they became in his later work formative forces in themselves, and individual development was viewed as merely recapitulating the history of the species. This reconceptualization culminated in the introduction of the second drive dualism, when Freud no longer conceived drives as mental dispositions but rather as a biological urge (*Drang*) and a source of compulsion (*Zwang*) to act. Drives, therefore, were turned in Freud's mature theory into a collective and cumulative ancestral memory inherited by all – that is, an innate education structuring and determining all human experience.

One central thread that continued to hold the different formulations together was the view that drives constituted the universally shared foundations of subjectivity. In his final work, *Moses and Monotheism*, written at the height of Nazi rule and completed while in exile in London, his universalist attitude was reversed. As we know today, the published version of this work is a composite of two manuscripts: in 1934, prompted by the new National Socialist government in Germany, Freud attempted to conduct a study of the character of the Jewish people, whereas in the sections written in 1937–8 he instead sought to formulate a theory of trauma by following an argumentative strategy similar to that which he had used in *Overview* (Westerink, 2023).[21] What he ended up accomplishing in the synthesis of the two versions was a theory of the foundation of Judaism and Jewish

identity anchored in the experience of the trauma following the purported murder of Moses and the collective guilt and trauma transmitted along the line of Jewish descent.

If Freud had thus far relied on use-inheritance to defend the existence of transcultural and universally shared experiences, in *Moses* he argued instead for a racialized theory of identity. Whereas he had previously speculated on events purportedly taking place at the dawn of humanity, such as the murder of the primaeval father of the horde, or on global ecological events, such as the ice age, which would have universally affected all of humanity, in *Moses* he reflected instead on the relatively recent history of events that explained the persistent survival of Jewish difference through the transmission of 'memory traces of the experience of our ancestors' (Freud, 1964[1939]: 99). The theory presented in *Moses*, in sum, seemed to agree with Jung's notion that it was indeed possible to conceive a psychology founded in the 'psychological differences obtained between all nations and races' (Jung, 1970[1934]: 541).

One can easily read in Freud's argument an attempt to reify Jewish identity at a time of existential threat; the theory of Jewish identity articulated in *Moses*, however, also places race as a factor fundamentally determining subjectivity. Psychoanalysis along those lines has not investigated the 'Psychological Man', as Philip Rieff (1959) contended, but rather what Yosef Yerushalmi (1991) called the 'Psychological Jew' – albeit with one important caveat. Yerushalmi's assessment is based on the claim of cultural inheritance, while Freud maintained that 'Psychological Jewishness' was not only a cultural basis of subjectivity but a biologically inherited and constitutional foundation of Jewish subjectivity and culture. This argument in turn raised a challenging consequence to psychoanalysis: if race indeed determines subjectivity, as Freud claimed, then it follows that psychoanalysis – a science founded by a Jewish author, based on the analysis of his primarily Jewish patients and in his own self-analysis, as well as by the experience of other psychoanalysts from a predominantly Jewish background – was indeed a Jewish science.

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All translations from non-English sources by the author.

1. Ludwig also lived in Vienna between 1855 and 1865, as professor of physiology and physics at Joseph's Military-Medico Academy. As expressed in the vivid letter written by the visiting student Ernst Haeckel to his parents, together they turned physiology in Vienna synonymous with the organic physics approach (Haeckel, 1978).
2. Müller had, for instance, proposed the theory that stereoscopic (binocular) vision was unified into a single perceptual image via anatomical tracts uniting each retinal point to the one in the complementary retina, while Helmholtz had maintained that there were no direct links between anatomical tracts, and that stereoscopic vision was a psychological process and the result of learning and experience (see Lenoir, 2018).
3. This division is evidence of the central influence of Wilhelm Wundt's early work. Wundt had been a student of du Bois Reymond in Berlin, and was Helmholtz's first assistant in Heidelberg during Exner's visit. In the *Vorlesungen* and *Beiträge* (Wundt, 1862, 1863), Wundt had also contended with the question of the mechanisms of unconscious inference, and traced a similar demarcation between conscious and unconscious sensations – a division he would come to reject by the 1880s (Araujo, 2012).
4. Exner first conceived of facilitation (*Bahnung*), a concept that would be central in Freud's *Project for a Scientific Psychology*, as the counterpart of inhibition (*Hemmung*) in an essay where he treated the interactions of excitations in the nervous system (Exner, 1882). The neurophysiology of inhibition had been the central topic of study for the Russian Ivan Setchenov, who was also a research assistant of Helmholtz during Exner's visit to Heidelberg (Smith, 1992).
5. The content of the lecture was later added to the *Project*, in Part 2 ('*Die Instinctgefuhle und das Denken*'), of Chapter 8 ('*Die Erscheinungen der Intelligenz*'; Exner, 1894: 332–75).
6. The phrase *Kampf ums Dasein* is how the term *struggle for existence*, the title of the third chapter in Darwin's *On the Origin of Species*, was translated into German (Darwin, 1876).
7. *Neigung*, the term used by Exner, is how the word *disposition* was translated into German in *Origin* (Darwin, 1876: 151).
8. Scholars generally trace the first references of the concept to William James' 1890 *Principles of Psychology*, as well as to other turn-of-the-century neurophysiologists such as Santiago Ramon y Cajal, Ernesto Lugaro, and Ioan Minea (Berlucchi, 2002; Jones, 2000, 2004).
9. On the long history of Freud's pursuit of an academic position, see Kurt Eissler's *Sigmund Freud und die Wiener Universität* (Eissler, 1966). On the hiring politics at the medical school, including Freud's case, see Felicitas Seebacher's 'Searching for Excelence' (2006b). For a more recent account of the anti-Semitism at the University of Vienna, see the collection of essays in *Der lange Schatten des Antisemitismus* (Rathkolb, 2013)
10. Freud repeatedly abstained from participation in political movements, particularly those of a revolutionary nature. Aside from his notable rejection of Marxism (Freud, 1933: 177–80), anarchism (ibid.: 175–6), and socialism, and his general aloofness to Zionism (cf. Frieden, 1997), the letter from which the prior quote was taken provides a particularly illustrative example of his personal political views. There, Freud responded to Zweig, who had sent him a 'Manifesto' asking for his signature, and said, 'I would give [a signature] gladly, did not the manifesto contain an attack on "the capitalistic economic confusion". For that would be tantamount to giving my support to the Communist ideal, and I am far from wishing to

do that. In spite of all my dissatisfaction with the present economic systems I have no hope that the road pursued by the Soviets will lead to improvement' (Freud, 1970: 22).

11. While some common analyses, most famously those by Lacan and Laplanche, try to establish precise differences between *Instinkt* and *Trieb* in Freud's work, I do not believe these do justice to the historical context of the use of these concepts. In the German language at the time, the semantic field of *Instinkt* was included in that of *Trieb*, and the use of the terms by contemporary authors was largely interchangeable (see Ziegler, 1891). The decision seemed rather to be much more anchored in personal choice: some preferred using the 18th-century German term, while others preferred the 19th-century Latin concept (Simanke, 2014). In Freud's case, the use of *Trieb* over *Instinkt* reflected the origin of the use of the concept in his debate with sexologists Albert Moll and Richard Krafft-Ebing (Kistner, 2017). In the case of Exner, the choice for *Instinkt* reflected the influence of Darwin.
12. Patricia Cotti documented the convoluted history of Freud's development of the concept of *Trieb* until 1905 in greater detail than can be achieved here (Cotti, 2008).
13. For more on Freud's ambiguous relation to his Jewish identity, see Yerushalmi (1991), Gilman (1995), Said (2003), Frosh (2008).
14. In a prior publication (Niro, 2022), I made the case that although Freud heavily relied on many of the views he learned during his long training in physiology, he rarely cited these authors. As I argued there, and will extend the analysis in an upcoming monograph, the views Freud learned with the physiology group often constituted the point of departure of his thinking. This was, after all, the environment in which he was formed and where he matured as a thinker. What he learned in Brücke's institute constituted tacit assumptions that Freud generally accepted and often extended rather than radically changed.
15. In a letter from 1908 to Karl Abraham, Freud wrote that 'it was only by [Jung's] emergence on the scene that psychoanalysis was removed from the danger of becoming a Jewish national affair' (Freud and Abraham, 2002: 38–9). In 1913, after the break with Jung, Freud wrote to Ferenczi, 'Our dear Swiss have gone crazy.… On the matter of Semitism: there are certainly great differences from the Aryan spirit.… But there should not be a particular Aryan or Jewish science. The results must be identical, and only their presentation may vary.… If these differences occur in conceptualizing objective relations in science, then something is wrong.… You had heard that Jung had declared in America that ΨA was not a science but a religion' (Freud and Ferenczi, 1993: 490–1).
16. In a letter to Lou Andreas-Salome, Freud wrote that he felt 'as alone as during the first ten years when I was surrounded by a desert' (Freud, 1990: 310).
17. Jung's influence on these issues was certainly not only negative, as he was also an important collaborator in Freud's theorizing on the nature of the phylogenetic origin of the drives. In their letters from 1910 to 1912, the two exchanged ideas about the analogies between ontogenesis and phylogenesis, as well as about inherited memories, topics also extensively explored by Jung in *Symbols of Transformation*.
18. As Freud himself would note in 1923, 'It may often have happened that what was old and what was more recent did not admit of being merged into an entirely uncontradictory whole', so that whereas originally 'the accent was on a portrayal of the fundamental difference between the sexual life of children and of adults', later on 'we were able to recognize the far-reaching approximation of the final outcome of sexuality in children … to the definitive form taken by it in adults' (Freud, 1961[1923]: 141).
19. Freud concluded the case of the Wolf Man by arguing that 'these scenes of observing parental intercourse, of being seduced in childhood, and of being threatened with castration are unquestionably an inherited endowment, a phylogenetic heritage' (1955[1918]: 97).

20. Eliza Slavet, however, also claimed that Freud professed a fully fledged Lamarckism, an interpretation that I reject, since his study of these authors (both Lamarck and the psycho-Lamarckists) was, by his own account, very limited. As Ritvo has demonstrated at length (as well as Simanke and Meiring, more recently), the origin of Freud's acceptance of use-inheritance can reasonably be traced back to Darwin, who also accepted the use-inheritance, and in particular to the reception of Darwin in Germany by authors like Ernst Haeckel and Carl Claus, with whom Freud studied and wrote his first paper (Meiring, 2022; Ritvo, 1990; Simanke, 2020). Although one might read the influence of Lamarck in the more 'active' and formative conceptualization of the drives in Freud's later works, *Beyond* is also an essay written primarily for the formulation of the death-drive – in itself an anti-Lamarckian proposition, since it states that evolution produces not only progress and complexification. Slavet further argues that Freud's 'Lamarckism' was motivated by his sympathy to the socialist cause due to purported associations between Lamarckism, Bolshevism, and Judaism. I do not believe she provides enough evidence for these claims, and Freud's letters to Zweig from the period, where he explicitly rejects any association with the Bolshevist cause, provide significant evidence against this interpretation.
21. As he wrote to A. Zweig in a letter from 1934, 'Faced with the renewed persecutions, one asks oneself again how the Jew came to be what he is and why he has drawn upon himself this undying hatred' (Freud and Zweig, 1970: 102).

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