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THE INFLUENCE OF JOHN BROWN'S IDEAS IN GERMANY

by

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The German reception of John Brown's system of medicine was paradoxical. During Brown's lifetime (1735–1788), when his work was becoming well known in England and the other European countries, during all this time, there was not the least interest in his medical ideas in Germany. "It is remarkable", wrote Coleridge, "that in Germany, where every thing new in foreign Literature is so quickly noticed, Brown's Elements should have been published 12 years before they were once alluded to, a few cursory sentences in Baldinger's Magazine excepted".[1]

Ten years after the appearance of Brown's *Elementa medicinae,* in 1790, Dr Christoph Girtanner, a well-known physician in Göttingen, published a paper in a French journal based on Brown's work, without mentioning Brown at all.[2] When the plagiarism was discovered a year later, the incident was much discussed; but even this small scandal did not help to make Brown popular in Germany. The silence about him and his ideas continued until 1795, when a sudden interest in him arose and he was soon well known all over Germany and across the border into the other German-speaking countries, Austria and Switzerland. Before the end of the century John Brown was one of the most famous medical men in Germany.

The first place to see the advancement of Brunonianism was Bamberg, in southern Germany, where its main exponent was Andreas Röschlaub (1768–1835), a famous physician at the hospital and professor at the university.[3] In 1793, a friend who had been visiting Pavia gave Röschlaub, still a student, a copy of Brown's *Elementa medicinae*. Röschlaub was very enthusiastic about it and he sent it at once to Professor Adam M. Weikard (1742–1803) in Fulda, a former physician-in-ordinary to Catherine of Russia, who was considered to be a progressive physician. Röschlaub was not mistaken in his choice. Brown's work impressed Weikard, who in 1794 arranged the first German printing of the original text from the Italian edition.[4] A year later, in 1795, Weikard published his own translation of the *Elementa medicinae,* the first presentation of Brown's work in German.[5]

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[1] Kathleen Coburn (editor), *The notebooks of Samuel Taylor Coleridge*, London, Routledge & Kegan Paul, 1957, vol. 1, p. 389.

[2] *Journal de physique, de chimie et d'histoire naturelle . . . par M. l'Abbé Rozier* [Paris], 1790, **36:** pt. 1, p. 422, pt. 2, p. 139.

[3] Nelly Tsouyopoulos, *Andreas Röschlaub und die Romantische Medizin,* Medizin in Geschichte und Kultur, Bd. 14, Stuttgart and New York, Gustav Fischer, 1982.

[4] By Pietro Moscati, (1794).

[5] Adam Melchior Weikard, *Johann Browns' Grundsätze der Arzneilehre aus dem Lateinischen übersetzt,* Frankfurt, 1795; 2nd ed., 1798.

As early as 1796, a year after Weikard's translation, a second translation of the *Elementa,* by Christof Pfaff, appeared. A second edition of this translation, published in 1798, included a supplement with a critical review of Brown's ideas.[6]

Meanwhile, Röschlaub also made a translation, but, out of respect for Weikard, he did not publish this until Weikard's second edition went out of print. Röschlaub's translation, under the title *John Brown's sämtliche Werke,* appeared in 1806–7 in three volumes.[7] This was the last translation of Brown's work into German.

Röschlaub and Adalbert Marcus, the director of the famous hospital in Bamberg, together successfully worked out the Brunonian system of medicine, and as early as 1797 they published the results of their collaboration.[8] Departing from Brunonian ideas, they created a new system, the so-called *Erregbarkeitstheorie* (excitability theory). Röschlaub presented this system in his major work, the *Untersuchungen.* The first and second volumes, published in 1798, went out of print so quickly that a second edition followed before the third volume of the first edition could be published in 1800.[9] Röschlaub and Marcus transformed Bamberg into an excellent, and famous, intellectual and medical centre to which students came from as far as America.[10]

In 1799 Röschlaub began editing a journal, known as "Röschlaub's Magazine", which for the next ten years would be the main forum of Brunonian medicine.[11]

Of course there were also opponents to Brunonianism in Germany. In the beginning these could be found among conservative doctors, the so-called "eclectics", who believed that everything new was acceptable only if it could be reconciled with the principles of traditional medicine. The most prominent was Christoph W. Hufeland (1762–1836). As early as 1797, Hufeland began to defend traditional medicine against the revolutionary tendencies of Röschlaub and Brown.[12] A true ecletic, Hufeland was later more diplomatic towards the movement. During the years of its great success he visited Röschlaub and Marcus at the hospital in Bamberg and he tried, in later works, to show that Brunonianism and the excitability theory were compatible with traditional medicine.[13]

A radical opponent of Brunonianism and Röschlaub outside the medical profession was Hufeland's friend, the conservative author and politician August von Kotzebue,

[6] Christof Heinrich Pfaff, *John Brown: System der Heilkunde begleitet von einer neuen kritischen Abhandlung über die Brownschen Grundsätze,* Copenhagen, 1798; 3rd ed., 1804.

[7] Andreas Röschlaub (translator and editor), *John Brown's sämtliche Werke,* 3 vols., Frankfurt, 1806–7. Subsequent references to Brown's writings will use this edition.

[8] Adalbert F. Marcus, *Prüfung des Brownschen Systems der Heilkunde durch Erfahrungen am Krankenbette,* vol. 1, Weimar, Industrie Comptoir, 1797.

[9] Andreas Röschlaub, *Untersuchungen über Pathogenie oder Einleitung in die medizinische Theorie,* 3 vols., Frankfurt, 1798–1800; 2nd rev. ed., *Untersuchungen über Pathogenie oder Einleitung in die Heilkunde,* 3 vols., Frankfurt, 1800–3. Subsequent references will be to this edition.

[10] According to Röschlaub's contemporary biographer, Joachim Heinrich Jäck. See, 'Dr. A. Röschlaub', *Allgemeine medizinische Annalen des 19. Jahrhunderts* [Altenburg], 1814, pp. 702–14.

[11] *Magazin der Vervollkommnung der theoretischen und praktischen Heilkunde* [Frankfurt], 10 vols., 1799–1809.

[12] Primarily in articles published in his famous and very influential *Journal der praktischen Arzneikunde und Wundarzneikunst* [Jena], 1795–1844. For example, 'Bemerkungen über die Brownsche Praxis', in ibid., 1797, **12:** 12–150, 318–49.

[13] See, Hans Joachim Schwanitz, *Homöopathie und Brownianismus 1795–1844: zwei wissenschaftstheoretische Fallstudien aus der praktischen Medizin,* Medizin in Geschichte und Kultur Bd. 15, Stuttgart and New York, Gustav Fischer, 1983, pp. 70–2; Tsouyopoulos, op. cit., note 3 above, pp. 57, 154–6.

one of the most popular and influential personalities in Germany. His numerous plays dominated the stage. In several of his comedies Kotzebue attacked Brunonianism in a very polemical manner, and ridiculed the Brunonian doctors. The student Karl Ludwig Sand murdered Kotzebue, a major representative of reactionary politics and reactionary literary agitation, in 1819.[14]

In 1799 the renowned *Allgemeine Literatur Zeitung* published a long, critical article reviewing Brunonian literature in Germany to that date.[15] The same year, in Röschlaub's *Magazin,* there appeared a short reply to this criticism by the philosopher Schelling.[16] This publication marked the beginning of the second period of Brunonian influence in Germany.

Schelling had mentioned John Brown in the *Weltseele* (1798) but was rather critical towards his ideas.[17] Soon after, under the influence of Röschlaub, he changed his mind, a conversion obvious in *The first outline of a system of a philosophy of nature,* published at the end of 1799.[18] There began close and productive co-operation between Schelling and Röschlaub, culminating in Schelling's visit to Röschlaub in Bamberg and his lectures on *Naturphilosophie* at the university there in 1800.[19] This new combination of Brown and Röschlaub's excitability theory with Schelling's *Naturphilosophie* met an enthusiastic reception and was very influential not only at the German universities but also on practical medicine.

But this initial phase did not last very long. Röschlaub and Schelling began to have serious differences which led, in 1805, to their final estrangement. In 1805 Schelling founded a new journal, *Die Jahrbücher der Medizin als Wissenschaft,* edited by himself and Adalbert Marcus. In fact it was a gesture against Röschlaub's *Magazin.*[20] The quarrel divided the Brunonians into two partisan groups, each criticizing the other, which discredited the whole movement. Most of the physiologists, like Franz von Walther, Ignaz Döllinger and L. Oken, followed Schelling's *Naturphilosophie*; while the pathologists (E. Grossi, J. W. Ringseis, and J. L. Schönlein) preferred Röschlaub. But this distinction is relative. The physiologists in Schelling's train appeared to be more

[14] Gerhard Otto Hölzke, 'Die medizinischen Lehren John Browns und Franz Joseph Galls in der dichterischen Darstellung August von Kotzebues', diss., Friedrich-Schiller-Universität Jena, 1958; see also Werner Leibbrand, 'August von Kotzebue und die Ärzte', *Medizinische Welt* [Berlin], 1934, **8:** 282–4; and Fritjof Stock, *Kotzebue im literarischen Leben der Goethezeit,* Düsseldorf, Bertelsmann, 1971.

[15] The author was Dr Johann S. Stieglitz, a medical practitioner in Göttingen. 'Anzeige verschiedener Schriften das Brownsche System betreffend', *Allgemeine Literatur-Zeitung,* 1799, **48:** 377–82, 465–70.

[16] 'Einige Bemerkungen aus Gelegenheit einer Rezension Brownscher Schriften in der A.L.Z.', *Magazin,* op. cit., note 11 above, 1799a, **2:** 255–62.

[17] Friedrich Wilhelm Joseph Schelling, *Von der Weltseele. Eine Hypothese der höheren Physik zur Erklärung des allgemeinen Organismus* [1798], in *Sämmtliche Werke,* pt. I, vol. 2, Stuttgart and Augsburg, 1857, p. 505.

[18] *Erster Entwurf eines Systems der Naturphilosophie* [1799], in ibid., vol. 3 (1858). See also Nelly Tsouyopoulos, 'Schellings Konzeption der Medizin als Wissenschaft und die "Wissenschaftlichkeit" der modernen Medizin', in Ludwig Hasler (editor), *Schelling: seine Bedeutung für eine Philosophie der Natur und der Geschichte,* Referate und Kolloquien der internationalen Schelling-Tagung Zürich 1979, Stuttgart and Bad Cannstatt, Frommann-Holzboog, 1981, pp. 107–16.

[19] Tsouyopoulos, op. cit., note 3 above, p. 57.

[20] Ibid., pp. 162ff. See also Bernhard Krabbe, 'Die "Jahrbücher der Medizin als Wissenschaft" (1805–1808). Untersuchungen zu einer medizinisch-philosophischen Zeitschrift der Romantik mit unveröffentlichen Briefen aus Schellings Nachlass', diss., Westfälische Wilhelms-Universität, Münster, 1984.

successful than the pathologists.[21] Röschlaub was isolated and his *Magazin* ceased publication after 1809. Discussion of Brunonianism then became rare.

But soon thereafter a new wave of interest in John Brown became evident: arising about 1813, it culminated during the years 1815–20. In 1816 Röschlaub founded a new journal in which he published several articles, most of them about John Brown's method.[22] Hufeland, the main opponent of Brown and Röschlaub, began, after 1816, to open his *Journal* to the partisans of Brunonianism. Hufeland himself wrote several articles about John Brown, in 1819, 1822, and 1829, and compared Brown with Galen.

The reason for the renewal of interest in John Brown at this time was the success and popularity of the French physician Broussais, whose theory was also based on the doctrines of John Brown.[23]

The interest in, and discussion about, John Brown is very well documented in the medical literature of this period. During the years 1813–14 a severe typhus epidemic arose in Germany. All doctors and practitioners were engaged in the struggle against it and a considerable number of typhus studies appeared then or immediately after.[24]

Of course there were the usual quarrels between renowned physicians. One of the most prominent rivalries was between the old friends Marcus and Röschlaub. Marcus became an enthusiastic partisan of Broussais' inflammation theory; while Röschlaub defended the classical theory of Brown. The numerous treatises about epidemic typhus show that Brunonianism was still the central theme of discussion among medical professionals, and the point of departure for all serious considerations concerning practical medicine.

The year 1819 saw the beginning of political anti-liberalism which would influence all aspects of German life. Sand's murder of Kotzebue, on 23 March 1819, gave Metternich a welcome pretext to force new restrictive laws upon Germany. The so-called *Karlsbader Beschlüsse* were accepted by the *Bundestag* in Frankfurt and after 20 September 1819 they were established as Federal law. These resolutions were mainly targeted at the student's union, the independence of the universities, and the liberty of the press. Intellectual life was thus reduced to a minimum, liberal professors were persecuted, and all revolutionary efforts were stopped. Literature, philosophy and social concepts now evinced revanchist tendencies; for medicine this meant a general return to traditionalism and eclecticism. A look at the lecture lists of the universities shows that not only Brunonianism but the whole body of Romantic literature disappeared from the educational agenda.

But of course the ideas of this period were not lost. The generation of 1840 and after in its turn attacked the "intellectually barren time of medical eclecticism" and recalled the "revolutionary" ideas of "Romantic medicine" at the beginning of the century. For

[21] Tsouyopoulos, op. cit., note 3 above, pp. 173–6.

[22] Andreas Röschlaub, *Neues Magazin für die clinische Medizin*, Nuremberg, 1816.

[23] Georges Canguilhem, *On the normal and the pathological*, trans. Carolyn R. Fawcett, Studies in the History of Modern Science vol. 3, Dordrecht, Boston, and London, D. Reidel, 1978, pp. 24–7; see also Jean-François Braunstein, *Broussais et le matérialisme. Médecine et philosophie au XIXe siècle*, Paris, Meridiens Klincksieck, 1986; Nelly Tsouyopoulos, 'Die Erregungstheorie in Frankreich (Brownianismus auf den Kopf gestellt)', *Hist. Philos. Life Sci.*, 1989, **11**: 41–6; and Schwanitz, op. cit., note 13 above, pp. 102–3.

[24] Röschlaub, op. cit., note 22 above, pp. 153–90.

example, Wunderlich, a founder of thermometry in Germany and a protagonist of the new, so-called "physiological medicine" school in the 1840s, ascribed the genesis of this school to Brown and Röschlaub.[25]

In 1846, Bernard Hirschel, a German doctor and historian, published a study of Brunonianism.[26] He presented the subject very generally, and undertook the discussion of all aspects of the new doctrine. He judged the work of Brown and Röschlaub very favourably and also listed the relevant literature in a bibliography which remains the best compilation on this subject. The relative objectivity of this study also shows that, by then, John Brown was already considered a purely historical figure.

II

I shall try now to explain the phenomenon of Brown's reception in Germany and, to begin with, why the interest in him began at such a late date.

For the Germans, Brunonianism was not interesting as long as it was thought to be a mechanical theory similar to Haller's theory of irritability.[27] Brown's adages that "Life is a forced state" or "the tendency of animals' every moment is toward dissolution . . . they are kept from it by foreign powers",[28] were understood to suggest that organisms must be totally passive in the face of natural influences. Thus Brown's medical theory was categorized as one of the dogmatic theories, hostile to life and static at a time when German physiology had begun to embrace the ideas of evolution and progression in nature. Even Schelling at first rejected Brown's doctrines because, as he wrote, "Brown thinks of animal life as something totally passive, which is impossible".[29] Thus the general opinion was that Brown destroyed the independence and quality of life, introducing a barren principle according to which "life is always stimulated from outside", as the historian Eble summarized it.[30]

It was Röschlaub's interpretation which made Brown's principle acceptable. Röschlaub explained Brown's "excitability" as follows: organisms possess intrinsic activity, but this has no actual reality unless the organism is stimulated from the outside. Therefore individual organisms do not exist without stimulation; but as long as they are stimulated, they are able to develop more than a purely receptive reaction to stimuli.[31] Excitability is the basic capacity (or energy) inherent in, or given to, living matter. Life as such is only produced when outside influences act upon the excitability; but the response to the external stimulants is the combined product of both stimuli and excitability.[32]

[25] Owsei Temkin, 'Wunderlich, Schelling and the history of medicine', *Gesnerus*, 1966, **23:** 188–95.

[26] Bernard Hirschel, *Geschichte des Brownschen Systems und der Erregungstheorie*, Dresden and Leipzig, 1846.

[27] See Röschlaub's comments on the fifth chapter of the *Elementa* in op. cit., note 7 above, vol. 1, p. 49. See also Richard Toellner, 'Mechanismus-Vitalismus: ein Paradigmawechsel? Testfall Haller', in Alwin Diemer (editor), *Die Struktur wissenschaftlicher Revolutionen und die Geschichte der Wissenschaften*, Meisenheim am Glan, Hain, 1977; and Schwanitz, op. cit., note 13 above, pp. 65–6.

[28] *Elementa* I: lxxii; in Röschlaub, op. cit., note 7 above, vol. 1, p. 58.

[29] Schelling, op. cit., note 17 above, p. 506.

[30] Burkard Eble, *Die Geschichte der praktischen Arzneikunde. (Systeme, Epidemien, Heilmittel, Bäder) vom Jahre 1800–1825*, Vienna, 1840, p. 17.

[31] Röschlaub, op. cit., note 9 above, vol. 1, p. 244.

[32] Ibid., p. 238. See also Tsouyopoulos, op. cit., note 3 above, pp. 120–8; John Neubauer, 'Dr. John Brown (1735–88) and early German Romanticism', *J. Hist. Ideas*, 1967, **28:** 367–82; and Guenter B. Risse, 'The Brownian system of medicine: its theoretical and practical implications', *Clio Medica*, 1970, **5:** 45–51, p. 45.

Furthermore, Röschlaub differentiated Brown's excitability, saying that diseases were not brought about by a mere excess or lack of stimuli, but that these came about through a disproportion between the receptive and active constituents of excitability.[33] Schelling, accepting this interpretation of Röschlaub, changed his mind about Brown's doctrine. Brown, he wrote, "had elaborated the only true principles for the whole organic *Naturlehre* because he was the first to understand that life is neither absolutely passive nor absolutely active". And Schelling added: "Most partisans did not understand the scientific meaning of Brown's principles, . . . with one exception, Röschlaub, whose works everyone who has a sense for scientific medicine must study".[34]

Personal and psychological motives played an important role in the rapid reception of Brunonianism in Germany. Röschlaub's sudden fame, arising out of his advocacy of John Brown's doctrines, was certainly a great challenge to most physicians and intellectuals. Because Marcus was already one of the most renowned practitioners and director of the best hospital in Germany, his enthusiasm for Brown was very helpful, and, finally, Schelling's interest and co-operation made the movement attractive to circles outside medicine. Excitability theory thus became an essential part of German culture and therefore most people felt that they had to participate in the debates concerning it.[35] The translation of Brown's works into German helped to spread his ideas and contributed to his popularity.

A further question which I have to put now is: what were the German physicians seeking? What did they find, or think to find, in Brown's doctrines?

It is obvious from medical writings from around 1800 that medical professionals were not satisfied with the medical system in Germany and that they were trying to reform it.[36] Their main problem was the fact that they did not have a scientifically-based therapeutics. This problem was related to the physicians' economic and social status: doctors criticizing the medical system were mainly complaining about the low esteem in which their own profession was held. Even at the beginning of the nineteenth century, medical doctors in Germany were a minority among the healing practitioners. A doctor who did not succeed in finding employment with the state authorities could scarcely compete with such other healing professionals as surgeons, barbers, *Bademeister*, and quacks tolerated by the authorities.[37] Most people preferred the non-doctors, well established by tradition and, of course, much cheaper.

The doctors' main concern was to attain protection through the state. But the most thoughtful among them came to the conclusion that it would be difficult to demand protection against quackery from the authorities if regular medicine itself was not able to distinguish between genuine medical practice on the one hand and blind empiricism and quackery on the other. Röschlaub was convinced that Brown's ideas could give a

[33] Röschlaub, op. cit., note 9 above, vol. 1, pp. 237–47.

[34] Schelling, op. cit., note 18 above, p. 91. See also Tsouyopoulos, op. cit., note 18 above, pp. 107–17.

[35] See also Schwanitz, op. cit., note 13 above, pp. 92–3.

[36] Nelly Tsouyopoulos, 'Reformen am Bamberger Krankenhaus—Theorie und Praxis der Medizin um 1800', *Hist. Hospitalium*, 1976, **11:** 103–22. See also Urban Wiesing, *Umweltschutz und Medizinalreform in Deutschland am Anfang des 19. Jahrhunderts*, Cologne, Pahl-Rugenstein, 1987, pp. 53–68.

[37] Tsouyopoulos, op. cit., note 3 above, pp. 77–84.

scientific foundation to medicine, and thus help orthodox medicine to develop methods which could not be used by non-educated practitioners.[38]

Now why would John Brown's system, which was generally thought to be empirical, appear to the eyes of the Germans as a basis for scientific medicine? Central to any answer was Brown's idea that health and disease are identical.[39] This simple statement was important because it means that pathology, nosology, and clinical medicine could be linked to physiology, which was in turn considered to be a field to which the experimental methods of physics and chemistry were applicable. Scientific physiology was a part of medical education in Germany and every doctor knew about Haller's experiments concerning the life principles "irritability" and "sensibility"; but they could not see how they could use these basic sciences in the treatment of diseases.

Investigators had tried to establish a scientific pathology by linking it to physiology and deriving the pathogenesis of diseases from life principles. They had tried to prove that fever, inflammations, and tumours were due to qualitative or quantitative deviations from "normal" irritability and sensibility of the nerves and muscles. When they did not suceed, pathologists as well as clinicians began to doubt if the principles of physiology and the methods of mechanism and reductionism could help develop a scientific pathology.

And now excitability, according to John Brown, was a physiological principle which at the same time explained asthenia and sthenia as basic pathological states of the organism. It was a principle which seemed to solve the immediate problem; this aspect of Brunonianism, which impressed German intellectual physicians from the beginning,[40] was elucidated for the first time in this context in 1795, in Röschlaub's dissertation on fever. Röschlaub's thesis challenged the opinions of the established medical professionals, causing a controversy in the medical faculty.[41] Schelling, writing in the *Erster Entwurf* about the concept of the new scientific medicine, also primarily emphasized this aspect of the Brunonian principle.[42]

This reaction of German physicians to Brown's principle of excitability had already been prepared by the philosophy of Kant and Fichte. As I have already mentioned, the physicians' problems were not primarily philosophical. But as the establishment of scientific medicine became more difficult, they could not avoid the influence of philosophy. Kant's philosophy had remained authoritative for intellectual and social considerations in Germany; and physicians trying to attain a scientific status for medicine naturally took it as a starting point. In several papers Guenter Risse has shown which aspects of Kant's epistemology attracted physicians.[43] It is obvious that this ideal of how science should be was, in fact, a result of the critical philosophy of Kant.

[38] Röschlaub presented these ideas mainly in his book *Über Medizin ihr Verhältnis zur Chirurgie nebst Materialien zu einem Entwurfe der Polizei der Medizin*, Frankfurt, 1802.

[39] *Elementa*, II: ii; in Röschlaub, op. cit., note 7 above, vol. 2, pp. 140–1.

[40] Tsouyopoulos, op. cit., note 3 above, pp. 113–16.

[41] Andreas Röschlaub, *De febri fragmentum*, Bamberg, 1795. See also Tsouyopoulos, op. cit., note 3 above, p. 116.

[42] Schelling, op. cit., note 18 above, p. 230.

[43] 'Kant, Schelling and the early search for a philosophical "science" of medicine in Germany', *J. Hist. Med.*, 1972, **27**: 145–58; ' "Philosophical" medicine in nineteenth-century Germany: an episode in the relation between philosophy and medicine', *J. Med. & Philos.*, 1976, **1**: 72–91.

At the beginning of the 1790s the physicians' initial enthusiasm changed, however, to scepticism. They realized that medicine could not fulfill the conditions for Kantian science.[44] A "true" science, according to Kant, requires *a priori* principles from which empirical propositions are derived. Now Kant also made it clear which concepts could be used as *a priori* principles: namely, only those which have a mathematical structure. Such metaphysical concepts as "God" or "soul" lost their explanatory power. Also, of course, the famous life principle of the German tradition, the *Lebenskraft*, lost its rights as an *a priori* principle which could explain the phenomenon of life. And then Röschlaub suggested that John Brown's "excitability" concept could be used as an *a priori* principle to explain life and disease, without the epistemological difficulties to which other metaphysical concepts lead.[45]

Now what made Röschlaub and others believe this? Possibly it was the influence of Fichte's philosophy. I think that this sudden openness to the ideas of John Brown after 1795 is not entirely accidental. In 1794, Fichte's *Wissenschaftslehre* appeared, and in the following years the intellectual atmosphere was dominated by discussions about Fichte's work.[46] It was the poet Novalis who insisted that Brown's "excitability" was very similar to Fichte's *Wissenschaftslehre*.[47] Historians have found this comparison fatuous, but it was meaningful for people like Novalis, Röschlaub, and Schelling. Fichte's *Wissenschaftslehre* tried to establish a relationship between two heterogeneous beings (as subject and object), thereby avoiding the difficulties of both realism and idealism. This appeared similar to the problem German medicine had, in finding a relationship between organism (subject) and environment (object) which would avoid the difficulties of both mechanism and vitalism.

John Neubauer, commenting on Novalis's opinion on Fichte and Brown, added that both Fichte and the author of the *Elements of medicine* would certainly have protested against this analogy.[48] This may be true, but it is not important. Whether it was Brown's intention or not, through the influence of his ideas German medicine was able to formulate a "dialectical" relation between organism and environment, avoiding the difficulties of mechanism and vitalism; it was analogous to the relationship which Fichte elaborated between the "I" and "not I" at the level of consciousness.

Brown, like Fichte, saw the response of organisms to outside agents as a quantitative reaction which is equal to the stimuli. This response, which Brown called "excitement", is a life force separating the organic from the inorganic realm.[49] The essential point is that the excitement does not represent only the stimulation, but a combination of the

[44] See Erna Lesky, 'Cabanis und die Gewissheit der Heilkunst', *Gesnerus*, 1954, **11:** 152–82; and Tsouyopoulos, op. cit., note 3 above, pp. 180–4.

[45] Röschlaub, op. cit., note 9 above, vol. 1, pp. 103–207.

[46] Johann Gottlieb Fichte, *Über den Begriff der Wissenchaftslehre oder der sogenannten Philosophie als Einleitungsschrift zu seinen Vorlesungen über die Wissenschaft*, Weimar, 1794; *Grundlage der gesammten Wissenchaftslehre*, Weimar, 1794–5.

[47] 'Fichtes Wissenschaftslehre ist die Theorie der Erregung', in *Novalis' Schriften*, im Verein mit Richard Samuel hrsg. von Paul Kluckhohn, 4 vols., Leipzig, 1929, vol. 3, p. 383. See Neubauer, op. cit., note 32 above; and *idem*, 'Novalis und die Ursprünge der romantischen Bewegung in der Medizin', *Sudhoffs Archiv*, 1969, **53:** 160–70.

[48] *Idem*, op. cit., note 32 above, p. 376.

[49] *Elementa*, I: ii, iii; in Röschlaub, op. cit., note 7 above, vol. 1, pp. 5–7, 9–10. See also Risse, op. cit., note 32 above, p. 45.

stimulation and intrinsic excitability; thus, living matter has a basic capacity to perceive environmental impressions and to respond to them. In other words, the response of organisms to the environment is mediated by an intrinsic activity of the organism. At this point, according to the German interpretation, Brunonianism could be distinguished from all mechanical theories of life.[50]

Now what, in particular, distinguished Brunonianism from vitalistic theories? If excitability is a hypothetical capacity that cannot be directly experienced, then how is it different from such vital forces as *Lebenskraft* and *Bildungstrieb*, that were considered to be *causae occultae*?

Brown's excitability is not a *causa occulta* because it is no *causa* at all. The real cause of the visible excitement remains the outside stimulant. What Brown assumed was that a deficient stimulation, which is visible in a low degree of excitement, must leave great amounts of the intrinsic activity of the organism unused; on the other hand, excessive stimulation, reflected in a high degree of excitement, finally leads to a dangerous exhaustion of the amount of intrinsic activity (excitability). Both states indicate an imbalance in the organism that leads to disease.[51]

This formula, according to which excitability suffers opposite variations to the stimuli and the visible excitement, made Brown's principle verifiable, and as such applicable to practical medical diagnosis and therapy.[52] A practical consequence of this is, for example, the distinction between a direct asthenic state and the state that Brown called "indirect debility". In the latter, all vital expressions of the organism reflect over-abundance of excitement, produced by excessive external stimulation. Traditional medicine treated these cases mainly through blood-letting, trying to calm the high degree of excitement of the vital phenomena.[53] But according to Brunonianism, the physician must be aware of the fact that even if all vital phenomena reflect over-abundance of excitement, the organism can be extremely weak because its intrinsic capacity of reaction, its "resistance", is dangerously exhausted and therefore must be supported.[54]

Brown's "excitability" could thus be differentiated from other vitalistic theories. To German philosophers and physicians, "excitability" appeared to be a dialectic principle,[55] that could explain life and death, health and disease, and also the interaction between organisms and their environment.

The high expectations which the Germans invested in the excitability theory soon demanded a more precise explanation of its main principle. As we have seen, Röschlaub had already taken the first step in this direction. He considered excitability

[50] Röschlaub, op. cit., note 9 above, vol. 1, pp. 239–40; Schelling, op. cit., note 18 above, pp. 90–1.

[51] *Elementa*, II: iii; in Röschlaub, op. cit., note 7 above, vol. 1, pp. 9–36; see also Risse, op. cit., note 32 above, p. 46.

[52] Andreas Röschlaub, *Von dem Einflusse der Brown'schen Theorie in die praktische Heilkunde*, Würzburg, 1798; see also Tsouyopoulos, op. cit., note 3 above, pp. 108–16.

[53] Wiesing, op. cit., note 36 above, pp. 53–68.

[54] *Elementa* II: iii; in Röschlaub, op. cit., note 7 above, vol. 2, pp. 142–50; see also Risse, op. cit., note 32 above, p. 46.

[55] "Das dritte System setzt den Organismus als Subjekt und Objekt, Thätigkeit und Receptivität zugleich, und eben diese Wechselbestimmung der Receptivität und der Thätigkeit in Einen Begriff gefasst, ist nichts anderes als was Brown Erregbarkeit genannt hat". Schelling, op. cit., note 18 above, p. 90.

(*Erregbarkeit*) to be a synthetic concept consisting of two antithetical factors, receptivity and activity. Health and disease depend on the balance or imbalance of these two factors.[56]

But even Röschlaub's formulation did not satisfy Schelling, who put two further questions.[57] How can we explain the qualitative changes in an organism which also belong to the disease? and why does a certain degree of excitability mean health while a degree higher or lower mean disease? Sthenia and asthenia as states of disease made no sense, according to Schelling, unless what was meant by a "normal amount of excitability" was explained.[58] This could be done through the following hypothesis: every individual organism reproduces itself continuously. This process of self-reproduction is what we call life.[59] Every individual organism requires for its reproduction a special rhythm, and also needs for this purpose a certain degree of receptivity and an analogous degree of activity.[60] That is why every disproportion between the two factors of excitability means disease: because it disturbs the rhythm of self-reproduction and finally influences the reproduction process itself, thus causing not only quantitative but also qualitative changes in the organism. This was Schelling's major contribution to the medical theory of excitability. The explanation was adapted by Röschlaub and it soon became an essential part of medical theory in Germany.

Ordinary practitioners who were influenced by Brunonianism, or impressed by the success of Brunonian doctors, did not care so much about the new principles on which medical theory could be based. The only thing they understood was the fact that they had to change the treatment, and instead of calming the symptoms of high excitement by blood-letting and similar methods, they now recommended strengthening medication, and especially the administration of opium. It is understandable that abuse could not always be avoided; some practitioners used opium as a universal remedy and this fact became a major criticism against Brown and the whole movement.[61] Actually the abuse of new medical remedies was not much different from practices today; but at the beginning of the nineteenth century it was still possible to criticize such abuses successfully.

After a time, educated doctors in Germany became disappointed with Brunonianism, and even Röschlaub became sceptical. He did not reject Brown's medical theory, but he realized that the criteria for its application were not sufficient for the foundation of a scientific clinical medicine.[62] But even if Brunonianism did not give the German physicians what they expected for the reform of the medical system, the influence of Brown's ideas on German medical thought cannot be denied. Several characteristic and important new ideas of nineteenth-century medical thought cannot

[56] Röschlaub, op. cit., note 9 above, vol. 1, pp. 237–8.

[57] Schelling, op. cit., note 18 above, pp. 220–40 ('Theorie der Krankheit, abgeleitet aus der dynamischen Stufenfolge in der Natur').

[58] Ibid., p. 222.

[59] Ibid., p. 235.

[60] Ibid., p. 236.

[61] See Verena Jantz, 'Pharmacologia Browniana. Pharmakotherapeutische Praxis des Brownianismus aufgezeigt und interpretiert an den Modellen von A. F. Marcus in Bamberg und J. Frank in Wien', diss., Philipps-Universität Marburg, 1974; Hans-Uwe Lammel, 'Nosologische und therapeutische Konzeptionen in der romantischen Medizin', diss., Humboldt Universität, Berlin, 1986, pp. 142–4.

[62] *Neues Magazin*, op. cit., note 22 above, pp. 20–35.

be understood without the direct or indirect influence of John Brown's doctrines:[63] examples are the ideas that pathology cannot be considered identical to physiology unless one applies a quantitative concept of disease; and that quantitative concepts in medicine must express a proportional relationship (a synthesis of two factors). Related to this idea was a new concept of fever as a measurable, disproportionate organic reaction. Another Brunonian legacy was the idea that if nosology were used as a basis for diagnosis it must be dynamically conceived, namely as pathogenic and not as a static classificatory system.

But most influential of all was Brown's principle of excitability. After Brown and the Romantics, German medicine never returned to the pure mechanism of the eighteenth century. The idea of an active, self-reproducing and self-defending power mediating the organism's general reaction has, since then, never ceased to resonate in German medical thinking. This can be seen, for example, in Rudolf Virchow, especially when he was trying to formulate the general principles of cellular pathology.[64] He finally succeeded in establishing what Röschlaub had envisaged: a pathological method, the understanding and application of which distinguished doctors from other practitioners. Even today, medicine cannot avoid questions derived from the principle of excitability. Must physicians treat the reaction of the organism to external stimulation, or is it possible to support the self-repairing power of the organism? Can medicine support the self-regulating capacity of the organism as such?

The answer to these questions is as negative as it was in the nineteenth century. It is true that some concepts of Brunonianism and of the Romantics, like the psychosomatic concept of disease, or the dialectical interaction between organism and environment, are very attractive today, but the central idea of excitability cannot be more than an explanatory challenge. It remains one of the possibilities that scientific medicine, today totally based on reductionism, cannot accept. Thus the first goal of Brown and the Romantics does not coincide with the aims of the modern scientific community.

Positivistic historians of medicine found themselves in great difficulties trying to present the personalities of Brown, Röschlaub, and Schelling and to judge their role in the history of medicine. Aware of their great influence and of their ideas on the one hand, but also quite certain that they do not deserve a place among the heroes of scientific progress, historians judged them ingenious but mistaken, and concluded that they had hindered progress. Therefore they were given the honour of placement among the most prominent enemies of modern scientific medicine. In this respect positivistic historiography agrees with Goethe, who also bestowed on Schelling, Brown, and Röschlaub the honour of putting them in the pantheon of his enemies:[65]

[63] See also Schwanitz, op. cit., note 13 above, pp. 100–3.

[64] He wrote for example in his article 'Alter und neuer Vitalismus': "In der letzten Zeit hat man sich mehr an die functionelle Reizbarkeit (*irritabilitas*) gehalten . . .; ich habe daneben auch die nutritive und reproductive Reizbarkeit oder Erregbarkeit (*excitabilitas*) als eine mehr allgemein vitale Eigenschaft wieder zu begründen gesucht". *Arch. path. Anat. Physiol.* [Berlin], 1856, **9**: 3–55, p. 52.

Wenn ich nun im holden Haine
Unter meinen Freunden wandle,
Mögen's meine Feinde haben,
Die als Kegel ich behandle.

Kommt nur her, geliebte Freunde!
Lasst uns schleudern, lasst uns schieben;
Seht nur, es ist jedem Kegel
Auch sein Name angeschrieben.

Da den *Procerem* der Mitte
Tauft'ich mir zu Vater *Kanten*,
Hüben *Fichte*, drüben *Schelling*,
Als die nächsten Geistsverwandten.

Brown steht hinten in dem Grunde,
Röschlaub aber trutzt mir vorne,
Und besonders diesen letzten
Hab'ich immer auf dem Korne.

Dann die *Schlegels* und die *Tiecke*
Sollen durcheinander stürzen
Und durch ihre Purzelbäume
Mir die lange Zeit verkürzen.

[65] *Goethes Werke, herausgegeben im Auftrage der Grossherzogin Sophie von Sachsen*, vol. 5, pt. 1, Weimar, 1893, p. 167:

When, surrounded by my friends,
In goodly groves I sally,
My enemies take on the guise
Of skittles in an alley.

Come here, dear friends, and let's begin
The bowling and the throwing.
Can't you see, on every pin,
A name is clearly showing?

"Father Kant" have I baptized
The overtowering kingpin.
Left is Fichte, Schelling's right,
The closest of his mind's kin.

Brown's behind, while at the front
Röschlaub glowers impassive.
Just the one at which to aim
My retribution massive.

Then the Schlegels and the Tiecks
Shall knock down one another,
And with their somersaultings end,
This long and tiresome bother.

V.N.