

Project abstract:

Reframing Psychiatry through Hormonal Regulation: The Difficult Beginnings of European Psychoendocrinology in the 1950s

Depression, mania, anxiety disorders or stress syndromes may all be associated with deregulated secretion of thyroid or sex hormones, melatonin, ACTH or other neuropeptides. Currently such associations and interrelations are addressed by numerous studies whose results have enhanced the knowledge on the interactions of hormones and psyche and found entrance into textbooks of medical psychiatry, psychosomatic medicine, neuropsychopharmacology or biopsychology.¹ In the 1950s this scientific field was defined as psychoendocrinology,² and later renamed psychoneuroendocrinology. Psychoendocrinology contributed to the rise of biological psychiatry. Till today it is represented by the *International Society of Psychoneuroendocrinology* (ISPNE), founded in 1969. The executive committee members of the ISPNE are still mainly psychiatrists.³ While the hormonally influenced psyche – within the model of the neurochemical self⁴ – is nowadays a psychiatric commonplace, a look back to the beginnings of psychoendocrinology in the 1950s reveals enormous difficulties to get off to a good start: The first researchers had a hard time to stabilize experimental treatments, research methods and findings. In part this was

¹ Bauer, M. et al.: Effects of supraphysiological thyroxine administration in healthy controls and patients with depressive disorders. In: *Journal of Affective Disorders*, 68/2-3, 2002, 285-94; Colla, M. et al.: Glutamate as a spectroscopic marker of hippocampal structural plasticity is elevated in long-term euthymic bipolar patients on chronic lithium therapy and correlates inversely with diurnal cortisol. In: *Molecular Psychiatry* advance online publication, 18 March, 2008; Cowen, P. J.: Serotonin and depression: pathophysiological mechanism or marketing myth? In: *Trends in Pharmacological Sciences*, 29/9, 2008, 433-6; Kelly, T., Lieberman, D. Z.: The use of triiodothyronine as an augmentation agent in treatment-resistant bipolar II and bipolar disorder NOS. In: *Journal of Affective Disorders*, article in press, corrected proof, 2008; Schüffel, W.: Stressverarbeitung: Bedeutung und Sinn in der Medizin. In: *DMW - Deutsche Medizinische Wochenschrift*, 130/3, 2005, 85-6; <http://www.ispne.org/conference>; Moore, D. P., Jefferson, J. W.: *Handbook of medical psychiatry*. Philadelphia, Pa. 2004, chap. 74; American College of Neuropsychopharmacology, Davis, K. L.: *Neuropsychopharmacology: the fifth generation of progress*. Philadelphia, Pa. 2002; Birbaumer, N., Schmidt, R. F.: *Biologische Psychologie: Springer-Lehrbuch*. Heidelberg 2006, p. 141-156.

² Reiss, M.: *Die Entwicklung der Psycho-Endokrinologie*. In: *Berliner Gesundheitsblatt*, 6/20, 1955, 517-22.

³ See: <http://www.ispne.org>.

⁴ Rose, N.: *Becoming Neurochemical Selves*. In: Stehr, N. (Ed.): *Biotechnology, Commerce And Civil Society*. New Brunswick, NJ 2004, 89-128.

due to their dependence on the developments in endocrinology, especially on the standardisation of hormone substances and test methods. However, another look also reveals that, at the same time, the involved psychiatrists were able to find research funds, build up an international scientific network and establish their research field. This leads to the question, what exactly the conditions were which, in the past, allowed and helped psychoendocrinology to become an established and special domain of scientific and clinical psychiatry?

Research Proposal:

In order to gain deeper insight into this historical issue I'm planning a research project on the origins and development of European psychoendocrinology. In a first step – with the help of the exchange grant – I would like to carry out a preliminary study that focuses on the available documents on research activities and the correspondence of three clinics that were especially active in building up psychoendocrinology: the Department of Psychiatry (Burghölzli Hospital) at the University of Zurich, Switzerland; the Biochemical and Endocrinological Research Department of Bristol Mental Hospitals, UK; and St. Ebba's Hospitals in Epsom, UK. On basis of this archival material and scientific publications of the time I want to analyse the translation of local research and therapeutical activities in an international scientific network of psychoendocrinology. My aim is to reconstruct, how scientific facts were generated, stabilised and generalised and how research und treatment methods were standardised that constituted the new field of psychoendocrinology. To do so I intend not only to investigate the practical aspects of scientific exchange, but also to reveal the discursive formation of common clinical and theoretical problems that helped to integrate conflicting psychiatric views and experiences. As a future project I would like to investigate also the following questions: Did pharmaceutical companies influence the development of psychoendocrinology? What impact had psychoendocrinology on psychiatric discourse and clinical practice, especially on modern psychopharmacol-

ogy? How is psychoendocrinology linked with biology, internal medicine, sexology, psychology, paediatrics, and gynaecology?

Background:

So far as I can see, no critical and comprehensive study on the history of psycho(neuro)endocrinology has been presented. The existing contributions from representatives of the field appear to be unbalanced and fragmentary.⁵ In the following I will outline some key points of the history of psychoendocrinology that stimulated myself to this research project.

Based on experimental data and new hypothesis on the 'inner secretions' in the second half of the 19th century, the first three decades of the new century saw the conceptualisation of hormones as fluid chemical messengers in complex homeostatic feedback systems which serve the organism for its regulation.⁶ While in this time period many hormones were detected, characterized, synthesized and finally standardised,⁷ psychiatrists discussed (together with endocrinologists or sexologists) the dependency of the psyche from the endocrine system and experimented with clinical applications of hormone preparations. They acted on the assumption that endocrine dysfunctions would be the cause of certain mental diseases. However, they were unable to prove their assumptions by clinical trials.

When in the 1950s psychiatrists focused again on the interrelations of hormones and psyche they found it necessary to restart from more complex conceptions that considered the most recent findings on hormone regulations. An important representative of the new approach was the

⁵ Bleuler, M.: *Psychiatrie und Endokrinologie: Geschichte ihrer Beziehungen in den letzten dreissig Jahren*. In: *Acta Psychiatrica Scandinavica*, 41/3, 1965, 411-8; Money, J.: *The genealogical descent of sexual psychoneuroendocrinology from sex and health theory: The eighteenth to the twentieth centuries*. In: *Psychoneuroendocrinology*, 8/4, 1983, 391-400; Strauß, B.: *Entwicklung der Psychoendokrinologie und ihrer diagnostischen Methoden*. In: Appelt, H., Strauß, B. (Ed.): *Psychoendokrinologische Gynäkologie: Ergebnisse und Perspektiven*. Stuttgart 1988, 1-15; Brambilla, F.: *1969-1989 - 20 Years of Life of the International-Society of Psychoneuroendocrinology*. In: *Psychoneuroendocrinology*, 14/4, 1989, 247-9; Prange, A. J.: *Psychoendocrinology: A Commentary*. In: *Psychiatric Clinics of North America*, 21/2, 1998, 491-505.

⁶ Tanner, J.: *"Weisheit des Körpers" und soziale Homöostase. Physiologie und das Konzept der Selbstregulation*. In: Sarasin, P., Tanner, J. (Ed.): *Physiologie und industrielle Gesellschaft. Studien zur Verwissenschaftlichung des Körpers im 19. und 20. Jahrhundert*. Frankfurt a. M. 1998, 129-69.

⁷ In the 1930s a series of international conferences on the standardisation of hormones took place.

psychiatrist Max Reiss, who, as an immigrant from Prague, became the director of the Biochemical and Endocrinological Research Department of Bristol Mental Hospitals/Barrow Hospital. He demanded to study systematically the interactions between the endocrine system, individual psychological disposition, and life events. Appropriate studies should take into account the (also negative) adaptability of psychoneuroendocrine feedback cycles and record subclinical anomalies and unspecific psychological aberrations.⁸

In 1954, a book appeared that was constitutive for the new approach to psychiatry: *Endokrinologische Psychiatrie* by Manfred Bleuler, professor of psychiatry at the University of Zurich and director of the psychiatric clinic. The book presented a systematic analysis of published clinical observations and findings of the Zurich research team. Bleuler's intention was to get rid of the idea that it would be possible to find specific or even monocausal correlations between typical psychiatric diseases and endocrine disorders. Instead he distinguished reactive psychological disorders, provoked by acute endocrine illnesses, from severe personality changes induced by long-lasting abnormal hormone levels. He called the latter condition 'endocrine psychosyndrome'.⁹

In the perception of the scientists of the 1950s the main research problem of the sensitive interplay of hormones and psyche was the lack of standardised hormone preparations and of sensitive endocrinological as well as psychiatric diagnostic tests. They also criticised the psychiatrists' insufficient understanding of endocrinology and, vice versa, the endocrinologists' ignorance of mental diseases.¹⁰ Therefore they strived for interdisciplinary and international collaborations to build up a successful platform for the

⁸ Reiss, M.: *Die Entwicklung der Psycho-Endokrinologie*. In: *Berliner Gesundheitsblatt*, 6/20, 1955, 517-22.

⁹ Bleuler, M.: *Endokrinologische Psychiatrie*. Stuttgart 1954, p. 5; Bleuler used the term 'endocrine psychosyndrome' already in 1948.

¹⁰ Reiss, M.: *Psychoendocrinology*. In: Reiss, M. (Ed.): *Psychoendocrinology*. New York, London 1958, 1-40, p. 5.

newly outlined research field.¹¹ In the 1950s, Bleuler and Reiss were the main organisers of concerted psychoendocrinological studies: Bleuler was able (with financial support from the Rockefeller Foundation, amongst others) to launch a multitude of research projects that were carried out by his own team as well as by associated collaborators.¹² Reiss coordinated numerous psychoendocrinological studies in Bristol and – as official consultant – in Epsom at the psychiatric clinic of St. Ebba's Hospital. The hormone preparations that were needed for this research activities were provided by Organon Laboratories Ltd. (England) und Ciba Ltd. (England).¹³ Bleuler and Reiss also worked with scientists from the US and Canada. In 1951, the Ciba-Foundation organized an international symposium on *The Influence of Steroid Hormones on Psychological and Behavioural Reactions*, which most of the protagonists of the new research field attended.¹⁴ Four years later, during the preparation of the II. International Congress of Psychiatry in Zurich, the *Psychoendocrine Association* was founded.¹⁵ The physicians who were trained by Bleuler and Reiss and worked afterwards at other universities, extended this research platform and network over whole Europe. Because of the crucial activities of Bleuler and Reiss it seems to be appropriate to start my studies of the beginnings of European psychoendocrinology by examining archival material from the Department of Psychiatry of the University of Zurich, from the Biochemical and Endocrinological Research Department of Bristol Mental Hospitals and from St. Ebba's Hospitals in Epsom.

¹¹ Bleuler, M.: *Endokrinologische Psychiatrie*. Stuttgart 1954, p. 5 et seqq.

¹² *Ibid.*, p. 11 et seqq.

¹³ Reiss, M. et al.: *Regulation of urinary steroid excretion. 1. Effects of dehydroisoandrosterone and of anterior pituitary extract on the pattern of daily excretion in man*. In: *Biochemical Journal*, 44/5, 1949, 632-5; Jones, J. K. N., Stich, S. R.: *The separation of ketosteroids by partition chromatography using nitromethane as stationary phase*. In: *Biochemical Journal*, 53/4, 1953, 679-84.

¹⁴ Bleuler, M.: *Endokrinologische Psychiatrie*. Stuttgart 1954, p. 8, fn. 1

¹⁵ Reiss, M.: *Psychoendocrinology*. In: Reiss, M. (Ed.): *Psychoendocrinology*. New York, London 1958, 1-40, p. 2.

Aims of visits to the hosting institutions

The grant shall be used for archival research and an intensive exchange with the local teams of the ESF RNP *Drug standards* in Manchester, London and Zurich. From the discussions with team members in Manchester I want to learn about and understand the peculiarities of the British scientific culture in the 1950s, the relationships between medical research, clinical work and pharmaceutical companies and the mechanisms of scientific national and international collaborations. I also like to consult Prof. Tilli Tansey from the Wellcome Trust Centre for the History of Medicine, London: She is an expert for the recent history of neuro-science and psychopharmacology. Prof. Jakob Tanner and the Zurich team are most important partners for discussion on the Swiss history of psychiatry in the 20th century and the clinical work at the Burghölzli Hospital. In addition, I hope to benefit from the British and Swiss teams' knowledge about the archival situation on-site. A first search for archival documents (from the 1950s) yielded promising results:

- Bristol's City Record Office: documents on the history of psychiatry in and around Bristol; notebooks and correspondence of psychiatrists; clinic reports;
- Surrey History Center at Woking: research notes from psychoendocrinological studies at St. Ebba's Hospital;
- State Archive Zurich: documents of the Psychiatric Clinic Burghölzli; (among other interesting materials) annual reports and correspondence of Bleuler with colleagues or pharmaceutical companies.

Based on archival research results and an analysis of publications of the protagonists of early psychoendocrinology it is my aim to write an article on the early developments of psychoendocrinology in Europe. In addition, the discussions with the teams in Zurich, Manchester and London may then provide a basis to broader research project on the history of European psychoendocrinology and its influence on medicine, from the beginning till its current situation.