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An overview of the life and career of Seymour Reichlin, MD, PhD

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This overview, part of a special Festschrift issue celebrating Dr. Seymour Reichlin's centennial year, honors the remarkable life and enduring scientific legacy of a researcher whose journey has fundamentally shaped our understanding of neuroendocrinology. From his early insights into stress responses during World War II to his groundbreaking work on hypothalamic control of pituitary function, Dr. Reichlin's research has bridged the gap between brain function and hormonal regulation. His discovery of multiple glucocorticoid receptor isoforms in the placenta and pioneering work on somatostatin exemplify his innovative approach to understanding complex neuroendocrine systems. Beyond his scientific achievements, Dr. Reichlin's influence as a mentor has touched generations of endocrinologists, with his trainees leading major medical institutions worldwide. Now at 100 years old, he continues to contribute actively to the field, writing books on the neuroendocrinology of Alzheimer's disease and exploring the biological basis of ecstatic mysticism. This paper traces his journey from a young medical student fascinated by Hans Selye's work to becoming a foundational figure in modern neuroendocrinology, highlighting how his personal experiences, including his military service and clinical observations, shaped his unique perspective on the interaction between emotional states and physiological responses.

Introduction

In medical science, there are particularly rare individuals whose work does not just add knowledge but changes how we understand our bodies and minds. Dr. Seymour Reichlin is one of those extraordinary figures. This special Festschrift issue of *Brain Medicine* (Genomic Press, New York) is dedicated to honoring the lifetime achievements of a scientist whose path has paralleled and shaped the evolution of neuroendocrinology itself. Starting with early studies on adrenaline synthesis as a college student, Dr. Reichlin's career spans nearly a century, during which he has become a central figure in understanding how our brains and hormones interact.

Born in New York City in 1924, Dr. Reichlin has profoundly impacted endocrinology over decades of groundbreaking research. His early work on how the hypothalamus regulates thyroid function led him to questions that would bridge laboratory science with the world of clinical medicine. Through roles as a researcher, clinician, and mentor, Dr. Reichlin has influenced our scientific insights and how we think about exploring the complex neuroendocrine systems that affect health and disease.

The timing of this Festschrift is significant. Remarkably, Dr. Reichlin is still contributing actively to scientific discussion. Just recently, he shared his thoughts at both the Salk Institute and the Pituitary Society's 2024 Biennial Membership Forum, continuing to inspire peers and young scientists alike. His enduring curiosity and insight are a beacon for those in the field and a reminder of how one person's passion for discovery can leave an indelible mark on generations.

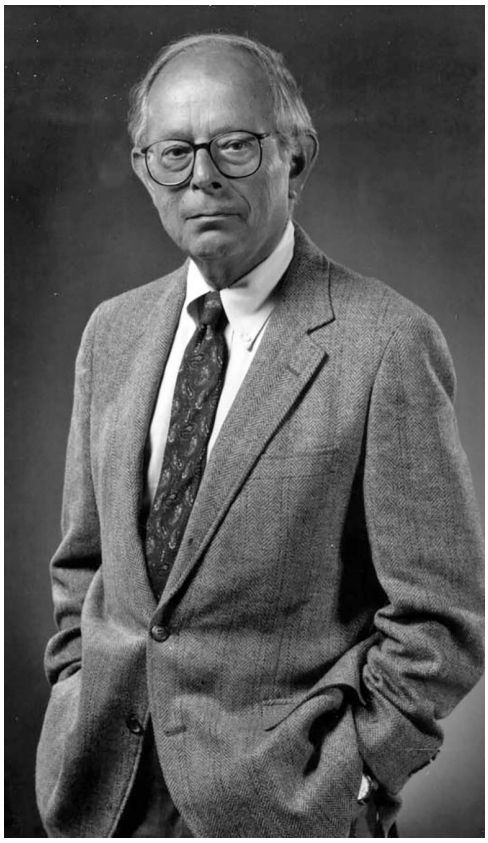

Figure 1. Seymour Reichlin, MD, PhD, renowned physician, researcher and teacher whose work has shaped the direction of neuroendocrinology.

Early Years

Seymour Reichlin (Figure 1), an internationally recognized physician, researcher, and educator specializing in basic and clinical hypothalamic/pituitary disorders, was born on 31 May 1924, in New York City, the second of three children. His parents, Henry Reichlin and Celia Rosen Reichlin, immigrated to the United States from a small town in Russia, Glubukye, then part of Lithuania under Russian rule (currently part of Belarus) in the early 1900s. After serving in WWI, his father ran a delicatessen and restaurant in New York City, and his mother worked in sales at Lord and Taylor. As a child, he lived through the Great Depression, becoming acutely aware of the stress financial constraints placed on families, including his own. This may have contributed to his later interest in psychosomatic medicine and the mechanisms by which stress causes illness. He attended the elite New York science high school, Stuyvesant,

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where he became a member of Arista, a society restricted to the top 10% of students.

On graduating from high school in 1939 at age 15 with a competitive New York State Regent's Scholarship, he enrolled in the City College of New York (CCNY). After his first year, he transferred to Antioch College in Yellow Springs, Ohio, because of the college's reputation for training premedical students. While a student there, he learned of Cannon's view of homeostasis, namely the fight or flight response to stress. For his senior honors project, he synthesized adrenaline following the method described by Stolz in 1904, a prophetic choice of topic considering Reichlin's career to study the mechanisms of the stress response. He also held a series of co-op jobs, including a 15-week stint as an orderly in the eye operating room at Mt. Sinai Hospital in New York, a psychiatric orderly at Butler Hospital in Providence, RI, a laboratory teaching assistant in General Chemistry at Antioch and a dietary analyst at Fels Research Institute in Yellow Springs, studying the influence of maternal diet during pregnancy on postnatal mental development.

Postgraduate Training

Reichlin graduated college in 3 years and, after applying to medical school while at Antioch, enlisted in the Army in 1943 at the age of 19 at the height of World War II. Because he had worked as an orderly in a psychiatric hospital as a civilian and the acute need for medical care of the large number of soldiers who had developed psychiatric problems in combat, he was immediately assigned to the Army Medical Corps. After completing basic training, he served as a psychiatric orderly at the Army's Fitzsimons General Hospital in Aurora, a suburb of Denver, CO, and was also trained as a frontline X-ray and EEG technician. As a co-op student civilian at Butler Hospital, Reichlin had participated in treatments of depression with electroshock therapy and insulin-induced hypoglycemic coma, and in the Army, treatment of acute panic attacks and psychotic mania and depression at a time when there were no effective pharmaceutical treatments. Thus, even before becoming a physician, Reichlin had had first-hand exposure to problems of physical and emotional stress and of mental illness and the challenge of treating acute and chronic psychosis.

Because of the severe doctor shortage in the United States during World War II, Reichlin was discharged from the Army after 1 year in service and admitted to Washington University School of Medicine in St. Louis in 1944. He could afford medical school because he had become eligible for the tuition benefits of the GI Bill. His close-up exposure to mental illness, both in the civilian and Army hospitals, and the seeming helplessness of physicians to alleviate this suffering permanently determined his future career path.

In his second year of medical school, Reichlin was inspired by a lecture given by a neurologist, Dr. Irwin Levy, about Hans Selye, whose work dealt with the mechanisms of stress-induced disease, in particular, the role of the adrenal gland in causing illness. But how the brain controlled the secretion of ACTH, the pituitary hormone that regulates the secretions of the adrenal cortex, was unknown. The decision to figure out this mechanism was a Eureka moment and marked the start of Reichlin's career as an investigator of Neuroendocrinology. Based on early studies by the English neurologist Hughlings Jackson, who demonstrated brain control of motor function using selective cerebral cortex lesions, a classmate, Frank Norbury, suggested that he study the effects of hypothalamus lesions on the stress response in rats. He asked Dr. George Bishop, an electrophysiologist who had worked with Joseph Erlanger and Herbert Gasser, winners of a Nobel prize for establishing the electrical basis of neural signal propagation, to show him how to produce specific lesions in the hypothalamus. In addition, he asked Dr. Ethel Ronzoni Bishop, a biochemist who was Dr. Bishop's wife, to teach him how to measure ascorbic acid in the adrenal gland, an assay technique for measuring adrenal function that had been recently described. Lacking any funding for this work, Reichlin obtained discarded laboratory rats that had been used for nutritional studies in the local Anheuser Busch Brewery, transporting them back to the medical school by bus. However, the studies with Bishop were not successful. A rat stereotaxic instrument was not available at the time to precisely direct an electrode tip into the hypothalamus. Placement of the electrodes was made by hand and, hence, inexact, and the animal quarters were not temperature controlled, a problem in St Louis' hot summers, which were, themselves, highly stressful. Studies of this type had never been done in either of his supervisor's laboratories, and he had to work out solutions independently.

Nevertheless, he learned much about bench research and worked in the Ronzoni lab using pharmacologic agents as adrenergic blockers to study the adrenal response to pain using sciatica nerve stimulation under pentobarbital anesthesia. His first scientific paper was published in the *American Journal of Physiology* in 1950 (1). Thus, he learned from his experience as a medical student that one could be both a physician caring for patients and a scientific investigator.

Reichlin graduated from medical school in 1948, first in his class with Honors in Internal Medicine. He then did a year of internship at the Cornell-affiliated New York Hospital, after which he planned to go directly into a research fellowship at Barnes Hospital in St. Louis, MO, arranged by Dr. William Daughaday. However, the hospital was short of a House Officer then, and Reichlin was asked to function as an Assistant Resident instead, which he did for 1 year. He then returned to New York Hospital for a second year of residency, followed by a year as Chief Resident between 1951 and 1952 at Barnes Hospital. During this interval, he published the first demonstration of penicillin-induced Loeffler's syndrome (2), married Elinor Dameshek, whom he first met as an intern when she was a student at Sarah Lawrence College, and started their family with the first of three children (Seth, Ann, and Douglas).

Following his clinical training, Reichlin moved to London in 1952 with his wife and first child to obtain a PhD in Physiology at the University of London with Dr. Geoffrey Harris. His interest in working with Harris, the world's leading expert at the time in studying how the brain controlled the pituitary, arose from a lecture Harris gave at Long Island Medical College in Brooklyn on his hypophysial-portal hypothesis while Reichlin was an assistant resident. After speaking with Harris following the lecture, and upon Harris acknowledging Reichlin's 1950 publication on the epinephrine effects on the anterior pituitary, it was agreed that he would take him on as a Fellow, ultimately supported by a Commonwealth Fund through the Harkness Foundation.

At the time of his visit to the United States, Harris had been working in Cambridge. However, by the time Reichlin joined Harris' lab as his first American PhD student, Harris had been appointed as Professor of Physiology at the University of London. England was still actively recovering from the ravages of the Second World War, and Harris' laboratories were set up in wartime-built prefabricated buildings on the campus of the Maudsley Hospital in South London. The work conditions in this situation have been described in a paper written to celebrate the 1956 publication of Harris' classical monograph, Neural Control of the Pituitary Gland (3). During his tenure with Harris and co-fellow Keith Brown-Grant, Reichlin studied hypothalamic control of the thyroid gland using rabbits as an animal model and definitively established that the brain has an essential role in controlling the thyroid (4). In addition, he studied how emotional and physical stress (restraint stress and cold exposure) influences the thyroid gland. His PhD thesis was entitled "Latent Period of Reflex Thyroid Activity in the Rabbit" and, together with three papers he published in the *Journal of Physiology*, challenged and ultimately reversed the prevailing assumption that stress increases thyroid function.

Academic Pursuits

Reichlin returned to Washington University School of Medicine in 1954 as an Instructor and Senior Research Fellow, supported by the Lowell M. Palmer Medical Research Fellowship, until promoted to Assistant Professor of Medicine in 1956. He spent two summers on a Navaho Reservation as part of his program to learn about the expression of psychosomatic disease in a non-European, non-English speaking culture and to train native Navajo Speakers to serve as primary health workers. In 1959, he was appointed Chief of the Division of Psychosomatic Medicine at Washington University, having taken 4 months off for intensive training in psychiatric interviewing techniques and differential diagnosis. This was part of an effort to encourage him to become a psychoanalyst, but his interest was more along the neuroendocrine lines and the mechanisms by which the psychological state affects illness. During this time, he honed his clinical

skills in clinical endocrinology, directing the Thyroid and Diabetes Clinics and, for a time, the Medical House Staff Clinic.

In each setting, he functioned as a supervisor of quality of care and instructor of house staff rotating through the service. He continued the research efforts he had initiated in London. However, he used rats as his experimental model and began to make selective lesions in the hypothalamus using a stereotaxic instrument, ultimately establishing the importance of the hypothalamus in the regulation of thyroid function *via* a thyrotropin-releasing factor (5). He also began to work on growth hormone (GH) regulation in rats and was the first to demonstrate that the hypothalamus controls GH secretion (6). Other experimental work focused on the effect of infection and fasting on the thyroid axis (7, 8). In addition, he was the first to determine the relationship between changes in protein-bound iodine and blood TSH in patients with myxedema as they were being given increasing doses of thyroid hormone, forming the basis of the subsequent clinical use of TSH measurements as the indicator for thyroid hormone replacement (9).

Reichlin left Washington University to become Chief of Endocrinology at the University of Rochester School of Medicine in 1962, allowing him to establish his basic and clinical investigation program, clinical practice, and teaching. During this time, his group developed the first radioimmunoassay for TSH, rat GH, and human luteinizing hormone (LH), demonstrating growth hormone-regulating areas of the monkey hypothalamus and the location of the glucose sensing region that regulated GH secretion, and began an integrative approach to human neuroendocrinology demonstrating the effect of physical and psychological stress on GH secretion and psychogenic amenorrhea in women. He also studied the effect of hypothalamic lesions on thyroid function, forming the basis of the formulation that the hypothalamus determines the "set-point" for feedback control of the pituitary-thyroid axis (10). Notable Fellows who trained in his program during this time include Joseph Martin (who became Vice Chancellor and Dean of UCSF and later Dean of Harvard Medical School), William Peck (who became Dean of Washington University), Gregory Brown (who became head of Neuroscience at McMaster University), Juan Malacara (who became Dean of the University of Guanajuato), and Santander Blanco (who became Dean of the University of Cali, Columbia).

By this time, Reichlin was becoming recognized as an authority in the emerging field of neuroendocrinology. He was invited by Dr. Leslie DeGroot, editor of *The New England Journal of Medicine*, to write his notable three-part article on "Neuroendocrinology," first published in December 1963, focused on how endocrinology involves the brain (11). He was also invited to write the chapter on Neuroendocrinology for the 4th edition of the "endocrinology bible," Williams Textbook of Endocrinology, and continued to do so for five editions. He served on the NIH Endocrinology Study Section, and this was during the critical years when the validity of the Harris hypophysial-portal circulation hypothesis was being tested by efforts to isolate putative hypothalamic-releasing hormones. Continued failure to isolate such hormones led to a crisis in the belief of the hypothesis, an issue settled in a critical 1968 conference organized by Reichlin together with other members of the Study Section, facilitating continued NIH support for Guillemin and Schally, who ultimately shared the Nobel prize for the discovery of thyrotropin-releasing hormone (TRH). (For further details, go to The Endocrine Society Oral History Collection, conducted on 6/13/1999. The collection is available at this link: https://url.genomicpress.com/yckw9hft.)

In 1969, Reichlin became Chairman of the Department of Medical and Pediatric Specialties at the University of Connecticut. During this time, he developed the first RIA for T3 and demonstrated that blood and tissue levels of T3 were low in patients with infections, worked on the mechanism for the preovulatory surge in the rat pituitary, the clinical pharmacology and use of DDAVP for diabetes insipidus and began studies on transsexualism and pituitary disorders in patients with gender dysphoria. Finding that developing a clinical department serving both medicine and pediatrics in a new medical school interfered with his research, he changed jobs and was appointed as the chairman of the Department of Physiology. However, this left him with no possibility of continuing the clinical investigation. After three years in Connecticut, coincident with Dr. Edwin Astwood's retirement as Chief of Endocrinology at Tufts New England Medical Center in Boston, he left to take Astwood's position and become Director of the General Clinical Research Center. This allowed him to integrate clinical and animal-based neuroendocrine research into a training program supported by the NIH.

This was an exciting time for neuroendocrinology and an extraordinary opportunity for Reichlin to continue his research, expand the faculty, teach, and, in particular, attract, mentor, and turn out excellent endocrine fellows to do research and clinical endocrinology. One of Reichlin's many excellent qualities was his ability to excite his fellows about research, mainly due to his innovative thinking, clear vision of the most important questions to ask, and vast knowledge of the field. Indeed, there were many accomplishments during his tenure and multiple publications in well-refereed journals. To name only a few of his essential science endeavors: the development of a radioimmunoassay (RIA) for TRH allowing demonstration of the distribution of TRH in the brain; elucidation of the TRH prohormone and gene; elucidation of the hypothalamic tuberoinfundibular system; development of the first somatostatin RIA (prepared by Reichlin, himself, from sheep grazing in his backyard); a demonstration that cAMP stimulated the synthesis of somatostatin leading to the discovery of the cAMP-regulated enhancer in the somatostatin gene promoter (CREB-responsive element); demonstration that vasoactive intestinal peptide is a major prolactin releasing factor in stress and suckling-induced prolactin release; demonstration that alpha-melanocyte stimulating hormone (α-MSH) has a vital role in thermoregulation and has anti-inflammatory actions; and performed early work on the brain as a neurosecretory organ for cytokines and how immunologic factors influence the endocrine system.

Reichlin's interest in somatostatin also served as a catalyst for the ultimate elucidation of the somatostatin prohormone and the somatostatin gene by Richard Goodman, who was a fellow with Reichlin at the time, and Marc Montminy, a Tufts Medical student, and to his seminal, two-part review on somatostatin in *The New England Journal of Medicine* in 1983 (12). Clinical accomplishments included studies on the effect of bromocriptine on prolactin secretion and prolactinomas; etiologies and mechanisms for the development of prolactinoma; demonstration of the efficacy of somatostatin analogs as medical treatment for acromegaly; hypothesizing and discovering the existence of a pancreatic somatostatinoma, reporting the first case in *The New England Journal of Medicine* (13); and becoming a part of the team that was to establish prospective screening for multiple endocrine neoplasia type 2 (MEN2)-related manifestations (medullary thyroid carcinoma and pheochromocytoma). The latter work resulted in several publications, including a landmark paper in *The New England Journal of Medicine* (14), and was the largest single pedigree that ultimately contributed to identifying the first mutation associated with MEN2, namely a mutation in the RET proto-oncogene at codon 634 of chromosome 10.

It is also notable that, long before the discovery of leptin in 1994, Reichlin, on the basis of the Coleman parabiosis experiments, had the idea in the mid-1970s that fat is an endocrine organ that secretes a circulating satiety factor that affects the brain. Although never published, his group demonstrated that a crude extract from chicken fat, administered to fasting rats 30 minutes before food reintroduction inhibited eating for 24 hours.

Reichlin would spend the most extended portion of his career at Tufts, 19 years (1972–1991). Indeed, this was a golden age of NIH research. Many of his students and Fellows went on to establish distinguished careers. To name only a few: Richard Goodman, Director Vollum Institute; Marc Montminy, Head of Neuroendocrine program at the Salk Institute, Richard Robbins, Chief of Medicine, Methodist Hospital; Alan Moses, Senior Vice President and Chief Medical Officer Joslin Diabetes Center; Ivor Jackson, Chief of Endocrinology, Rhode Island Hospital; Yogish Patel, Chief of Endocrinology McGill University Hospital Center; Robert Gagel, Head, Division of Internal Medicine, MD Anderson Cancer Center; Steve Newmark, Dean, University of Nevada Medical School; Marc Hellerstein, Dr. Robert C. and Veronica Atkins Chair in Human Nutrition at the University of California at Berkeley; Ronald Lechan, Chief, Division of Endocrinology, Tufts Medical Center; Malcolm Low, Professor of Molecular and

Integrative Physiology at University of Michigan and recipient of the Albert Nelson Marquis Lifetime Achievement Award; Hyman Schipper, Founding Director, Center for Translational Research, Jewish General Hospital affiliated with McGill University; Deepak Chopra, author, Chief of Staff at New England Memorial Hospital, founding President of the American Association of Ayurvedic Medicine and spokesperson of the transcendental movement.

Reichlin's program also attracted many international research fellows who have gone on to successful careers. Again, to name only a few: Julio Abucham, Head of Neuroendocrine Unit Universidade Federal de Sao Paulo; Claudio Urosa, Venezuela Chapter Governor, American College of Physicians; Karen Lam, Chair, Department of Medicine, University of Hong Kong and President of Hong Kong Society of Endocrinology; Roberto Toni, Professor of Human Anatomy and Scientific Director Museum of Biomedicine, University of Parma and Fellow, Academy of Sciences of the Institute of Bologna; Patricia Joseph-Bravo, Co-Director of the Molecular Neuroendocrinology, Institute of Biotechnology at UNAM; Franco Sanchez Franco, Chief Advisor of the Ministry of Health of Spain.

In 1991, after leaving Tufts and being honored as Professor of Medicine Emeritus, Reichlin moved to Arizona and joined the faculty at the University of Arizona, initially as the Mel and Enid Zukerman Professor of Psychoneuroendoimmunology and then as Research Professor of Medicine, until his retirement in 1999. He carried with him a Merit Award from the NIH to continue his work on how the brain influences the regulation of the immune system, partially summarized in a review article he published in 2004 (15). His aim was to test the hypothesis that the brain releases immune-regulating substances into circulation and to establish whether this is a potential mechanism whereby emotional stress can aggravate the autoimmune disease. After developing a RIA for IL-1 and studying the effect of lipopolysaccharide in glial-enriched mixed primary cultures of neonatal rat telencephalic cells to induce the release of cytokines, his group demonstrated that cytokine secretion from the brain entered the peripheral bloodstream and elucidated the kinetics of this response.

Reichlin had also worked with Dr. John Murphy to develop targeted diphtheria toxin fusion proteins to ablate specific cell types. Included was the idea to develop a conjugate with substance P to ablate pain-sensitive neurons in the spinal cord as a cure for chronic pain, conjugates with α-MSH as a way to target melanoma cells, and in an attempt to find a cure for a colleague who developed pancreatic cancer, development of conjugates that would deliver an antisense DNA to KRAS to ablate pancreatic cancer cells *via* the CCK receptor. The latter effort resulted in Reichlin being given a joint appointment at the Cancer Center at the University of Arizona. However, despite the cleverness of the idea and demonstration in tissue culture of the effectiveness of the conjugates, he was not successful in obtaining funding to continue the work and retired in 1999.

Retirement

As noted above, Reichlin retired in 1999 and just celebrated his 100th birthday. He is as active and engaged as ever, and his intense curiosity about science and love of life continues. He has kept up-to-date with the literature and lectures worldwide and continues to attend the annual meetings of the Endocrine Society and the Pituitary Society. He recently presented at the Salk Institute memorializing the Nobel Laureate, Roger Guillemin and gave an address before the Pituitary Society at their Biennial Membership Forum in June 2024. In addition, he has been instrumental in continuing his late wife's work on identifying the oldest known daguerrotypes of enslaved individuals from the Taylor plantation in South Carolina. These photographs were discovered when Elinor was a curator at Harvard's Peabody Museum and are now recognized as containing the image of "Papa Renty," the great-great-great-grandfather of Tamara Lanier, a resident of Norwich, Connecticut. However, most of his academic efforts have been devoted to writing books, and two are currently in preparation. The first is on the neuroendocrinology and neuroimmunology of Alzheimer's disease. The second is on the neurobiological basis of ecstatic mysticism, the mechanisms that underlie these changes, and its connection to adaptive neuroendocrine stress mechanisms. This topic has fascinated him for years following his participation in a scientific delegation to Iran at the invitation of Dr. Lailly Mahoozi to link the seven major hormones of the pituitary gland to the "Seven Valleys of Love," the central theme of the 12th century mystical Persian Islamic poet, Farid Ud-Din Attar.

Figure 2. "Tango," bronze casting created by Seymour Reichlin.

Other Perspectives

There is far more to this remarkable man than is apparent by his scientific accomplishments and being a superb physician, researcher, and educator. He served as the President of the Endocrine Society (1975–1976) and was the first President of the Pituitary Society (1994), has been on multiple editorial boards (including *The New England Journal of Medicine*), advisory boards including the FDA and NIH Council, is the recipient of numerous awards including the Berthold Medal, the highest award of the German Endocrine Society, Distinguished Alumnus Award from Washington University, Rebecca Rice and Horace Mann Awards of Antioch College (recognizing individuals who have distinguished themselves and excelled in their vocation), nominated Foreign Corresponding Member of the Academy of Sciences of Bologna, named one of the best internists and endocrinologists in Boston and top 100 best doctors in the United States, and has published over 400 research papers, reviews, book chapters and books. On the 100th year of the elucidation of the chemical structure of adrenaline, together with Dr. Akira Arimura, he organized a satellite conference at the annual meeting of The Endocrine Society to record the history of discovery of the chemical nature of the hormones of the pituitary, adrenal, thyroid, ovary and testes. He is a sincere, gentle, and considerate man who knows others' feelings and always has a good word to say about everyone. He is also a talented artist and has done some excellent and innovative metal sculpture and wood carvings (see Figures 2 and 3). In addition, he is a musician, and if you would like to hear a superb rendition of "When the Saints Go Marching In" on the harmonica, New Orleans style, click on this link: https://url.genomicpress.com/2p97zk43.

Reichlin would tell you that, despite all he has accomplished, he is most proud of the accomplishments of the large number of students and Fellows he has trained over the years. The feeling was reciprocated at his 100th-year surprise birthday party, held in Boston, to which over 40 of his

Figure 3. Wood sculpture of Osama Bin Laden and a medieval devil, carving by Seymour Reichlin from a single mahogany log created shortly after 9/11/2001.

former Fellows and close associates from around the world attended. For those of us who have the honor and privilege of knowing Dr. Seymour Reichlin and training with him, we celebrate his significant legacy and are proud to be a part of it.

Anyone interested in hearing directly from Dr. Reichlin can access some of the interviews online at the following URLs: https://url.genomicpress.com/282amad5, https://url.genomicpress.com/3bv2c55d, https://url.genomicpress.com/2p97zk43, https://url.genomicpress.com/vebeb7h9, and https://url.genomicpress.com/mt4nkcr6.

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References

1. Ronzoni E, Reichlin S. Adrenergic agents and the adrenocorticotrophic activity of the anterior pituitary. Am J Physiol. 1950;160(3):490–8. DOI: 10.1152/ajplegacy.1950.160.3.490. PMID: 15406345
2. Reichlin S, Loveless MH, Kane EG. Loeffler's syndrome following penicillin therapy. Ann Int Med. 1953;38(1):113–20. DOI: 10.7326/0003-4819-38-1-113. PMID: 13008320
3. Reichlin S. 60 YEARS OF NEUROENDOCRINOLOGY: MEMOIR: working in the 'Huts' with the professor: the first Maudsley years. J Endocrinol. 2015;226(2):E7–11. DOI: 10.1530/JOE-15-0034. PMID: 26209093
4. Brown-Grant K, von Euler C, Harris GW, Reichlin S. The measurement and experimental modification of thyroid activity in the rabbit. J Physiol. 1954;126(1):1–28. DOI: 10.1113/jphysiol.1954.sp005188. PMID: 13212725; PMCID: PMC1365637
5. Reichlin S. The effect of hypothalamic lesions upon the thyroid response to partial thyroidectomy. Endocrinology. 1957;60(4):567–9. DOI: 10.1210/endo-60-4-567. PMID: 13414687
6. Reichlin S. Growth hormone content of pituitaries from rats with hypothalamic lesions. Endocrinology. 1961;69:225–30. DOI: 10.1210/endo-69-2-225. PMID: 13740467
7. Reichlin S. The effect of dehydration, starvation, and pitressin injections on thyroid activity in the rat. Endocrinology. 1957;60(4):470–87. DOI: 10.1210/endo-60-4-470. PMID: 13414676
8. Reichlin S, Glaser RJ. Thyroid function in experimental streptococcal pneumonia in the rat. J Exp Med. 1958;107(2):219–36. DOI: 10.1084/jem.107.2.219. PMID: 13491758; PMCID: PMC2136797
9. Reichlin S, Utiger RD. Regulation of the pituitary-thyroid axis in man: relationship of TSH concentration to concentration of free and total thyroxine in plasma. J Clin Endocrinol Metab. 1967;27(2):251–5. DOI: 10.1210/jcem-27-2-251. PMID: 4163614
10. Martin JB, Reichlin S. Feedback regulation of TSH secretion in rats with hypothalamic lesions. Endocrinology. 1970;87(5):1032–40. DOI: 10.1210/endo-87-5-1032. PMID: 5482930
11. Reichlin S. Neuroendocrinology. N Engl J Med. 1963;269:1296–303. DOI: 10.1056/NEJM196312122692407. PMID: 14065476
12. Reichlin S. Somatostatin (second of two parts). N Engl J Med. 1983;309:1556–63. DOI: 10.1056/NEJM198312223092506. PMID: 6140639
13. Ganda OP, Weir GC, Soeldner JS, Legg MA, Chick WL, Patel UC, et al. "Somatostatinoma": A somatostatin-containing tumor of the endocrine pancreas. N Engl J Med. 1977;296(17):963–7. DOI: 10.1056/NEJM197704282961703. PMID: 321960
14. Graze K, Spiller IJ, Tashjian AH Jr, Melvin KE, Cervi-Skinner S, Gagel RF, et al. Natural history of familial medullary thyroid carcinoma: effect of a program for early diagnosis. N Engl J Med. 1978;299:980–5. DOI: 10.1056/NEJM197811022991804. PMID: 692625
15. Reichlin S. Neuroendocrinology of acute immunity. J Endocrinol Invest. 2004;27(6 Suppl):48–61. PMID: 15481803