



Darwiniana

ISSN: 0011-6793

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Instituto de Botánica Darwinion

Argentina

Medan, Diego

THE SCIENTIFIC LETTERS OF LORENZO R. PARODI

Darwiniana, vol. 4, núm. 1, 2016, pp. 31-44

Instituto de Botánica Darwinion

Buenos Aires, Argentina

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ARTÍCULO INVITADO THE SCIENTIFIC LETTERS OF LORENZO R. PARODI

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Abstract. Medan, D. 2016. The scientific letters of Lorenzo R. Parodi. *Darwiniana*, nueva serie 4(1): 31-44.

The scientific correspondence of the Argentine botanist Lorenzo Raimundo Parodi (1895-1966) includes 5280 letters interchanged between 1916 and 1966 with 1257 correspondents from 50 countries. Parodi's correspondence is comparatively rich in copies of his own letters, and therefore it offers both an insight into his personal views and a record of the ways in which he communicated with an extensive network of relationships. The article first describes the structure and formation dynamics of the documentary corpus, then analyzes in detail the thirty epistolary exchanges in which Parodi's participation (as measured by the number of his own letters) was maximal. Also, a full index of the correspondence is added as an electronic supplement. In spite of Parodi's various academic interests and of the considerable diversity of his partners, the correspondence unequivocally reflects that research on grasses was the axis that organized Parodi's scientific life. The central position he occupied in Argentina's botany during the first two thirds of the past century, along with his international reputation as agrostologist, makes his correspondence a repository of manuscripts by virtually every significant member of these two corporations that were active during Parodi's life. This article makes a contribution to the scarce bibliography on epistolary exchanges of Argentine scientists, and is apparently the first edited correspondence of an Argentine botanist.

Keywords. Argentina; history of science; Lorenzo R. Parodi; scientific correspondence.

Resumen. Medan, D. 2016. Las cartas científicas de Lorenzo R. Parodi. *Darwiniana*, nueva serie 4(1): 31-44.

La correspondencia científica del botánico argentino Lorenzo Raimundo Parodi (1895-1966) abarca 5280 cartas que intercambió entre 1916 y 1966 con 1257 correspondientes de 50 países. Comparativamente rica en copias de cartas propias, la correspondencia de Parodi permite adentrarse en sus propias ideas además de registrar sus modos de comunicarse con su red de relaciones. El artículo describe la estructura y dinámica de formación del corpus documental, y luego analiza en detalle 30 epistolarios en los que la participación de Parodi (medida en términos del número de sus propias cartas) fue máxima. También se agrega un índice completo de la correspondencia como apéndice electrónico. A pesar de la variedad de sus intereses académicos y de la considerable diversidad de sus correspondientes, el epistolario de Parodi muestra inequívocamente que su vida científica se centró en la investigación de las gramíneas. La posición central que ocupó en la botánica argentina durante los dos primeros tercios del siglo pasado y su prestigio internacional como agrostólogo, determinaron que su correspondencia sea un repositorio de manuscritos de virtualmente cada integrante de estas dos corporaciones con actividad relevante en vida de Parodi. El artículo contribuye a la escasa bibliografía sobre epistolarios de científicos argentinos y es al parecer el primero en ocuparse de la correspondencia de un botánico argentino.

Palabras clave. Argentina; correspondencia científica; historia de la ciencia; Lorenzo R. Parodi.

INTRODUCTION

Lorenzo Raimundo Parodi (1895-1966) was a leading figure in the Argentine botanical scenario during the first two thirds of the past century. His influence on the discipline continues through the work of his primary disciples, some of whom are active to the present day, and through a second and even a third generation of botanists that still find inspiration in Parodi's legacy.

Raised in a family of small landowners at the heart of Argentina's grain producing region, during his boyhood, Parodi gained a deep understanding of local agricultural practices (and of their limitations), at a time when the country was becoming one of the world's main food suppliers. This particular viewpoint was blended with a strong inclination to study and with a love for plants, all of which flourished under the influence of the Belgian botanist Lucien Hauman at the start of Parodi's brilliant career at the Universidad de Buenos Aires. Parodi's agrostological publications earned him worldwide reputation, even if, to some degree, they obscured other significant contributions he made in the fields of agricultural botany, ethnobotany, weed science, phytogeography, phytopathology, and botanical history. In addition to his scientific production, Parodi invested considerable efforts in teaching, training his disciples, scientific editing, and other academic matters. Several biobibliographic sketches depict the main aspects of his life (Burkart & Cabrera, 1941; Jurado Padilla, 1966; Burkart, 1967, 1968; Boelcke, 1968; Medan, 2004; Becerra, 2011), but a full account of Parodi's academic career has not been written yet. This task will necessarily await until the materials that constitute his scientific legacy be properly revised and made available to biographers (Vega et al., 2006).

After Parodi's death his personal herbarium, library and archive were acquired by his home institution, the Facultad de Agronomía y Veterinaria de la Universidad de Buenos Aires. There, a project aimed at the study of Parodi's legacy is currently in progress under the leadership of Andrea S. Vega and myself. A first contribution focused on the collection of grass type specimens assembled by Parodi (Vega, 2013) is now followed by this article, which analyses his scientific

correspondence. This considerable documental body, comprising over 5200 letters interchanged by Parodi with more than 1200 correspondents throughout his career, provides a unique insight into the structure of his network of relationships, and at the same time, gives access to his personal views over a variety of issues, from subtle details of a particular grass species' concept, to botanical methods, academic life, and science in general. I first offer a general overview of Parodi's correspondence, followed by a deeper account on some of its representative portions, in some cases including brief transcriptions.

MATERIAL AND METHODS

From 1966 onwards, the distinguished agrostologist Elisa G. Nicora (1912-2001) acted as first curator of Parodi's collections and carried out a primary organization of his archive. When in 1973 Nicora moved to the Instituto de Botánica Darwinion (hereafter IBODA), she took a fraction of Parodi's files, which are now incorporated to IBODA's archives. Most of the documents (ca. 90% of all material, including 96.5% of the letters) remained at their original place (now Facultad de Agronomía de la Universidad de Buenos Aires, hereafter FA), where a complete reorganization of the archive was undertaken between 1978 and 1981 by the present author.

The analysis of the correspondence required a first decision about the type of material which should be considered in the study. I excluded letters related to Parodi's social and domestic life, those linked with his official tasks at the University and other academic institutions, the routinary correspondence related to his work as editor of the *Revista Argentina de Agronomía* (1934-1962), and thirty-eight letters from senders of unknown identity and no institutional affiliation.

The remaining material, including both the FA and IBODA fractions, was listed in full detail. Correspondent's name and institutional affiliation were recorded, as well as the years of start and end of the exchange, the number of incoming and outgoing letters, and the dates of individual letters. Letters cited in incoming or outgoing correspondence but not actually existing

as documents were included in the records provided that their dates of production were available. The full index (excluding only letters' dates) is appended as an electronic file available at www.ojs.darwin.edu.au/darwiniana/article/view/699/513.

Taking into consideration their letters' contents and their main field of activity, correspondents were assigned to one of the following thematic categories: Botany, Agronomy, and Miscellaneous. The first two included individuals (ranging from professional scientists to serious aficionados) who showed personal interest in the matter under discussion. Botanists and agronomists differed (not always clearly) in their viewpoints regarding plants: as objects of scientific study and as objects aimed to fulfill human needs. Miscellaneous correspondents were mainly involved with circulation of scientific and technical information, botanical publications and plant samples, and they were frequently officers acting on behalf of institutions.

Using the index data, simple metrics were computed (a) to depict the flow of letters along the studied period, and (b) to explore possible differences in Parodi's treatment of each category of correspondent. The variation in intensity experienced by letter circulation was explored by plotting the number of exchanged letters against time. In doing this, to avoid incurring in excessive detail, the total number of letters dispatched in a given quinquennial (e.g. 1916-1920) was assumed to have circulated in the central year of the quinquennial (in that case, 1918).

The transcription or facsimilar reproduction of all Parodi's letters would have demanded several thousand printed pages, additional to those necessary for analysis and indexing. While such a project is feasible on a digital platform, in the space available here I set the limits along the description of a representative sample of the documentary body. In pursuing such endeavour, I selected the ten correspondents for each of the three thematic categories that received most of Parodi's letters. By so doing I tried to avoid introducing a subjective bias, by which the selection would have merely consisted of those correspondents that I, for one or the other reason, judged to be the most important.

RESULTS

Overview of the correspondence

From the paper conservation perspective, the status of Parodi's correspondence is very good. Incoming letters exist almost always as originals, since only three letters are photocopies of originals of unknown location. The envelopes were preserved in very few cases. Many outgoing letters were recorded by Parodi as short, usually easily legible handwritten notes appended at the bottom or overleaf the pertinent incoming letters. These hand-resumed answers indicate their somewhat routinary nature, because when contents of an outgoing letter were of particular importance for him, Parodi kept a full-text copy. Early full-text copies are handwritten drafts, then (after 1934), they appear as typewritten drafts, and since 1936 onwards, they are typically typewritten carbon copies. Occasionally Parodi kept as a copy, a ready-to-send, signed letter in which he decided to introduce last minute corrections and therefore, needed to be retyped (Fig. 1). Many incoming letters contain acknowledgments of receipt of previous Parodi's letters of which no copy exists, indicating that often Parodi chose not to keep record of his outgoing correspondence.

The existence of letters for almost every year of the studied period and the lack of sharp variations of the per-year rate of letter circulation (see below) suggests that the available documental body is reasonably complete. Letters lack perforations, numbering or any sign of permanent ordination, which indicates that Parodi limited himself to file them in simple folders.

Between 1916 and 1966 Parodi interchanged 5280 scientific letters with 1257 different correspondents. Fifty-nine epistolary exchanges are split between FA and IBODA archives, while all others are entirely conserved at FA (1149) or IBODA (58). One half of the correspondents were based in Argentina (607), but others wrote from the United States (205), three South American countries (Brazil, Uruguay, and Chile; 63, 36 and 34, respectively), and four European countries (the United Kingdom, France, Germany, and Italy; 33, 26, 24, and 22, respectively). The additional 207 correspondents represented other 41 countries.

The variation in the intensity of letter circu-

LORENZO R. PARODI
LAVALLE 4680
BUENOS AIRES, ARGENTINA

Buenos Aires, 8 de marzo de 1953

Sr. Dr. Orestes A. Carenzo
Presidente de la Biblioteca Municipal
Dr. Menendez
Pergamino

Mi estimado Dr. Carenzo:

En respuesta a su atta. nota del 25 febrero me es grato acompañar a la presente una reseña, quizás demasiado larga, para que le facilite la presentación. Suprínale todo lo que le parece superfluo.

La disertación será de carácter humanístico y creo que ^{la entenderá} interese= ^{valdrá} será aun a personas no versadas en la materia. Queda como título:

La Botánica y la Medicina del Renacimiento.

La ilustraré con unos 30 diapositivos conteniendo figuras obtenidas en libros antiguos.

El fenómeno del Renacimiento es uno de los acontecimientos más extraordinarios de nuestra civilización, y, aunque es tema de nunca acabar, supongo que ese público aceptará que lo distraiga una hora y cinco minutos de sus habituales ^{ocupaciones,} distracciones.

Si pudiera disponer de un pequeño pizarron iria el sábado de mañana a ^{ponerlos en} anotar los principales nombres para que sea más facil comprender algunos hechos.

Con tal motivo lo saluda con la consideración más distinguida

L. Parodi

[My dear Dr. Carenzo: In answer to your kind note of 25 February, I am pleased to append an abstract, perhaps too long, to make the introduction easier. Please, eliminate everything you find superfluous. The lecture will be of humanistic nature and I believe it will be of interest for (corrected: it will be easily understood by) individuals not knowledgeable on the matter. Title will be Botany and Renaissance Medicine. I will illustrate it with 30 slides with figures taken from ancient books. Renaissance as a phenomenon is among the most extraordinary ones in our civilization and, although an endless issue, I guess that the audience will accept to be distracted during an hour and five minutes from their usual entertainments (corrected: occupations). In case a small blackboard were available I would arrive on Saturday morning to write the main names (corrected: to have the main names written) so that some facts be more easily understood. Therefore, I send you my kindest regards...]

Fig. 1. Letter of L. R. Parodi to O. A. Carenzo, dated March 8, 1953. The letter was ready to send and already signed when Parodi decided to introduce corrections, which he made in pencil. This corrected version was kept as a copy. White paper, 191 x 252 mm, filed in FA.

lation is shown in Fig. 2. After a first decade of low activity, Parodi's correspondence grew exponentially, reaching a first peak in the 1936-1940 quinquennial (the absolute maximum - 302 letters - occurred in 1938, meaning that four letters were either received or sent every five days during that year). The decrease in letter exchange which is perceptible along the following quinquennial was probably associated with the disruption in international communications caused by World War II. In the ensuing postwar peak Parodi attained his maximal epistolary activity, after which a general declination occurred, particularly between 1951-1955, when Argentina's political scenario impacted negatively on local academic life.

Parodi's correspondence was unequally split among the three thematic categories. A majority of his correspondents (40%) were interested in agronomic matters, and another 34.7% of them were classified as miscellaneous (Table 1). Only 321 individuals corresponded with Parodi about strictly botanical issues, but these (25.5% of all correspondents) explain an overproportional fraction of exchanged letters (47.8%). Also, Parodi devoted comparatively more efforts to botanical correspondence than to the other matters, as revealed by the relationship between the numbers of outgoing and incoming botanical letters (0.27) which was above the value shown for the whole correspondence (0.23). Remarkably, the rate of outgoing letters per

botanical correspondent (1.68) more than doubled the average value (0.79). The dynamics of letter circulation seems to have been equal in all categories, as suggested by the fluctuations shown by the botanical correspondence, which closely followed the general pattern (Fig. 2).

Format and style

Parodi wrote invariably in Spanish, using short, plain sentences, with minimal courtesy phrases at the start and end, and immediately getting to the point. He only indulged in circumstantial comments to explain why a particular letter was answered with excessive delay. These, often detailed apologies, may simply inform about a strike of post officers, an erroneous address, or his being trapped by lengthy examinations at the University, but sometimes reveal more important aspects of his life, including plant collection or holiday trips, periods of intensive work on a scientific article, convalescence after illnesses or car accidents, or mourning after a family member's decease.

Parodi's letters rarely exceed a single typewritten page. To get this result, when approaching the bottom of the paper sheet, he sometimes switched from double to single spacing to fit in the last sentences. Parodi seems to have produced almost all his letters by himself, since only a handful of copies during the 1960 decade bear a secretary's initials.

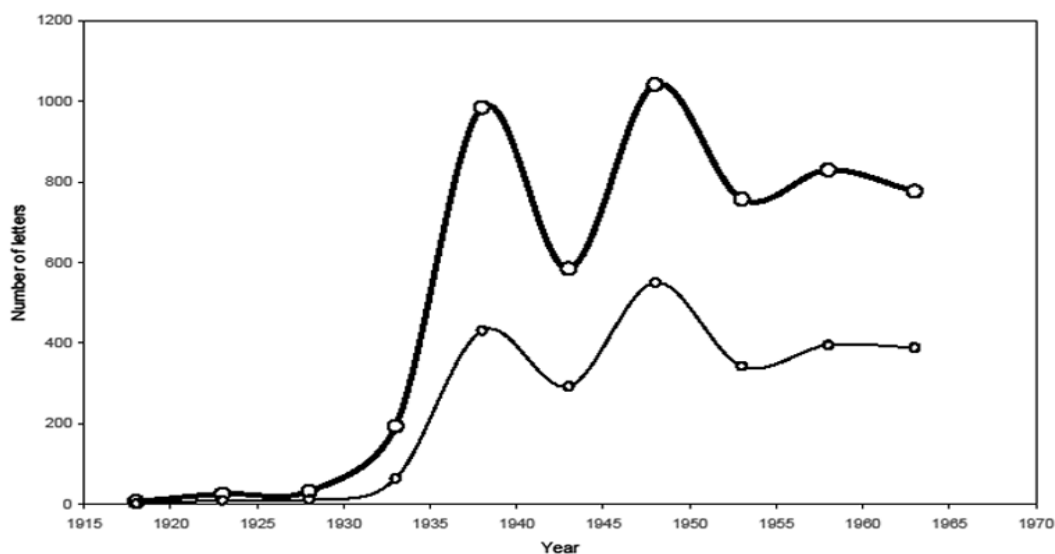


Fig. 2. Variation in the intensity of L. R. Parodi's scientific correspondence between 1916 and 1966. Each data-point represents the sum of all outgoing and incoming letters circulated in a quinquennial, plotted against the quinquennial's central year. First quinquennial is 1916-1920 (centered in 1918), second is 1921-1925 (1923), etc. The tenth period is actually a sexennial (1961-1966) and is centered in 1963. All letters (thick line) and botanical letters only (thin line) are shown.

Selected epistolary exchanges

The thirty epistolary exchanges selected to be explored in detail (Table 2) embraced a total of 957 letters, 285 of which were sent by Parodi. This amounts to ca. 18% of all letters and ca. 27% of Parodi's outgoing correspondence.

Agronomy

Anacreonte Avila de Araujo (1898-1973), *José da Costa Sacco (b. 1930)* and *Alberto Coelho Sarmiento (?-?)*. These Brazilian agronomists specialized in pastures and frequently sent grass specimens to Parodi for identification. In all cases, Parodi initially complained about the specimens' and labels' poor quality, but as the standard of collections improved, he could enrich his herbarium with much appreciated tropical and subtropical grass taxa. Parodi's detailed and patient instructions about how to collect, package and send plant material were a constant reference throughout his correspondence.

Enrique Jorge Capelle (b. 1918). E.J. Capelle graduated as an agronomist in 1943 and probably

attended Parodi's botanical courses. Settled in the inner Buenos Aires province, he frequently corresponded with Parodi, often reporting on newly discovered weeds.

Guillermo Covas (1915-1995). Although his main contributions were in the fields of soil conservation and plant breeding, Covas was also a distinguished plant taxonomist. His correspondence with Parodi shows shared interests in grasses of semiarid and arid regions of central Argentina.

Jorge H. Morello (1924-2013). Morello's epistolary exchange with Parodi covers his early phase as phytosociologist in his native Rosario, then in Brazil and finally at the Miguel Lillo Institute in Tucumán. Beyond providing identification of many grasses, when Morello recognized the need of systematic studies of critical grass genera to define vegetation areas, Parodi received in his laboratory and trained one of Morello's grantees, Ana María Türpe, who later became a distinguished agrostologist.

Benjamin Y. Morrison (1891-1966). An officer of the U.S. Department of Agriculture, Morrison

Table 1. Classification of L. R. Parodi's scientific correspondence by thematic categories, arranged by decreasing number of correspondents. Parodi's commitment to each category was assessed by computing rates of outgoing to incoming letters, and outgoing letters to correspondents.

Category	Number of correspondents (a)	Number of letters		Parodi's commitment	
		incoming (b)	outgoing (c)	c/b	c/a
Agronomy	500	1554	317	0.20	0.63
Miscellaneous	436	745	139	0.19	0.32
Botany	321	1986	539	0.27	1.68
All	1257	4285	995	0.23	0.79

frequently asked Parodi for grass seeds which he later distributed among several U.S.D.A. researchers. As testimony of Morrison's rich personality, starting in 1941, he switched from English to an initially vacillating, then correct and eventually exuberant Spanish: '*...estoy escribiéndole para pedirle otra vez, semillas de Chloris Berroi, Arech. que, de acuerdo con su carta de fecha 17 de Agosto, debería estar llena de semillas en el jardín de la Facultad de Agronomía. Necesitamos solamente una muestra de semillas para un señor Prof. Tal o Cual que quiere examinar sus entrañas con el fin de escribir, un buen día, un artículo seco y aburrido, sobre algo sin importancia en este mundo tan cansado...*' ['...I write to you to ask again for seeds of Chloris Berroi, Arech. which, according to your letter dated August 17, should be plentiful in your garden at the Faculty of Agronomy. We need only a sample of seeds for a certain Prof. Something or Else, who wishes to inspect their guts to write, one happy day, a dry and boring paper on an irrelevant issue for this exhausted world...'] (B.Y. Morrison to L.R. Parodi, December 23, 1944).

Carlos M. Ochoa (1920-2008). Trained as an agronomist, Ochoa is best known for his work on potato research and breeding. Parodi identified many grasses from Ochoa's private herbarium, mainly collected in Peru, and fostered his early botanical publications, in the *Revista Argentina de Agronomía* edited by Parodi.

Ramón Adrián Ruiz Leal (1898-1980). Best known as an expert in the flora and vegetation of his native Mendoza, during almost thirty years, Ruiz Leal sent grasses for identification to Parodi. On an occasion in which Ruiz Leal complained about Parodi slowness in replying to him, he received as an answer: '*...Si no le he enviado las determinaciones de sus envíos anteriores es por falta total de tiempo; la lista anterior me ha costado dos tardes de trabajo (sábado y domingo); piense que casi todas las semanas me llegan paquetes de todas partes, especialmente del extranjero. Tengo muchos sin abrir desde hace meses. Yo estoy anulado y no puedo ocuparme de mis trabajos predilectos, pues todos los días tengo nuevas obligaciones que me absorben todo el tiempo; lo peor es que son todos cargos honoríficos y las tardes que yo me había reservado las veo totalmente esterilizadas con tareas adve[r]sas a la investigación...*' [...If I failed to send you the identifications of your two previous deliveries it is due to absolute lack of time; the preceding list [57 names for 62 specimens] took me two afternoons 'work (Saturday and Sunday); consider that almost every week I receive parcels from everywhere, especially from abroad. Many of these have remained unopened for months. I am overwhelmed and cannot work on my favourite themes, because every day new duties fall over me, being the worst part of it that all of these are honorary tasks, and the afternoons I had saved for myself

Table 2. The thirty epistolary exchanges with maximal commitment of L.R. Parodi, as measured by the number of letters sent by him in each thematic category. Correspondents are alphabetically listed. A= agronomy, B= botany, M= miscellaneous.

Correspondent		Epistolary exchange		
Name	Category	Period	Total number of letters	Number of letters sent by Parodi
Araujo, Anacreonte Avila de	A	1933-1953	26	9
Brücher, Heinz	B	1950-1965	26	11
Capelle, Enrique J.	A	1946-1965	25	5
Chase, Mary Agnes	B	1938-1961	127	52
Church, George L.	M	1940-1956	6	2
Colla, Ada Silvia	M	1941-1957	7	2
Covas, Guillermo	A	1941-1961	22	6
Hatschbach, Gerdt G.	B	1949-1958	30	12
Hauman, Lucien L.	B	1937-1962	50	16
Houssay, Bernardo A.	M	1934-1961	27	3
Hug, Enrique	M	1933-1952	21	5
Jiménez, Adolfo M.	M	1957-1960	23	6
Joly, Aylthon Brandão	B	1947-1951	31	12
Kühnel, Josef	M	1963-1966	11	4
Macedo, Amaro	M	1948-1957	20	8
Meyer, Teodoro	B	1930-1965	69	11
Morello, Jorge H.	A	1949-1965	18	6
Morrison, Benjamin Y.	A	1937-1948	26	7
Ochoa, Carlos M.	A	1948-1959	24	7
Reeder, Charlotte G.	B	1953-1965	38	12
Rex González, Alberto	M	1956-1966	10	3
Rosengurtt, Bernardo	B	1937-1965	80	14
Ruiz Leal, Ramón Adrián	A	1937-1964	44	7
Sacco, José da Costa	A	1954-1959	32	11
Sarmento, Alberto Coelho	A	1958-1964	21	8
Schulz, Augusto	B	1933-1965	51	17
Strático, José M.	M	1937	5	3
Swallen, Jason R.	B	1937-1955	36	16
Villalba, Pedro	M	1957-1958	9	2
Woolston, Arthur	A	1953-1961	42	8

become barren doing non-research work...'] (L.R. Parodi to R.A. Ruiz Leal, April 6, 1959).

Arthur Woolston (?-?). A British immigrant, Woolston, lived in a settlement of the Christian 'Society of Brothers' located at Primavera, Paraguay. To improve agricultural production and health care, Woolston pursued a better knowledge of the local flora by sending plant specimens to botanists outside Paraguay. Parodi identified many of Woolston's grasses until the dissolution of the Primavera colony in 1961.

Miscellaneous

George L. Church (?-?). Based at Brown University, Providence, Church undertook cytotaxonomical studies on several groups of grasses. The exchange included publications, taxonomical remarks and seeds of South-American species that Parodi kept in culture in Buenos Aires.

Ada Silvia Colla (1902-?). This Italian plant physiologist ran a private laboratory in Buenos Aires and corresponded with Parodi in search of support for her research on plant chemical composition.

Bernardo A. Houssay (1887-1971). Physician and physiologist, Houssay shared the 1947 Nobel Prize for Physiology or Medicine. He corresponded with Parodi in search of plant material for pharmacological research and, from his position in the Argentine Association for the Advancement of Science, asking for advice on candidates to scholarships and prizes.

Enrique Hug (1896-1987). Based at the Pharmacology Institute of the Faculty of Medicine in Rosario, Santa Fe province, Hug corresponded with Parodi in search of plant material and identifications for his pharmacological research.

Adolfo María Jiménez (?-before 2005). A Lasalian Christian brother based at Cochabamba, Bolivia, Jiménez corresponded with Parodi in search of identifications for the grasses of his herbarium. Partly on the basis of this information, later Jiménez contributed to the floristic knowledge of his country (Rodríguez, 2005). In a letter dated February 20, 1958, Parodi asked brother Jiménez for Bolivian postage stamps, a request promptly satisfied. Parodi's philatelic interests appear not infrequently across his correspondence.

Josef Kühnel (1886-after 1966). Kühnel shared

with Parodi a deep interest in the life and works of the Bohemian naturalist Thaddaeus Peregrinus Haenke (1761-1817). Parodi's biographical contribution on Haenke (Parodi, 1964) is partly based on his correspondence with Kühnel, as acknowledged by Parodi himself in his article. Kühnel's last letter, dated March 5, 1966, transmitted news about the fate of Haenke's herbarium, and may have distracted Parodi from the illness that would cause his death few weeks later.

Amaro Macedo (1914-2014). This distinguished private plant collector sent Parodi dozens of grasses from Brazil's Cerrado region. Parodi was both delighted and excited about the novelties that each new parcel of grasses brought to him: '*...Su colección de gramíneas de ese Estado es sumamente interesante y admirablemente bien preparada; sus ejemplares se parecen a los de Riedel y Regnell [...]. Esa región es un verdadero paraíso agrostológico. Vd debería estudiarlas pues hay problemas que solo se pueden resolver viendo las plantas vivas...*' [*...Your collection of grasses from that State is of utmost interest and is wonderfully prepared; your specimens are alike those of Riedel and Regnell [...]. That region is a true agrostological paradise. You should study them because there are problems that can only be solved by inspecting live plants...*] (L.R. Parodi to A. Macedo, April 24, 1956).

Alberto Rex González (1918-2012). Archaeologist and anthropologist, Rex González asked Parodi for help to identify plant remains, especially of maize, found in pre-Columbian human settlements mainly from Northwestern Argentina. The exchange with Rex González refueled Parodi's long standing interest in studies on prehispanic agriculture, but this development was interrupted by Parodi's illness and death in 1966.

José M. Strático (?-?). The brief interchange with Strático dealt with Parodi's contribution to a cycle of lectures organized by the Instituto Popular de Conferencias, a private institute devoted to science divulgation, where Strático acted as Secretary. On July 2, 1936, Parodi exposed on 'The problems of plant domestication', probably delivering an abridged version of a paper he had published the previous year (Parodi, 1935).

Villalba, Pedro (?-?). This short epistolary exchange is comparable to that held by Parodi with J.M. Strático, because it deals with arrangements

for a public lecture to be delivered by Parodi. On October 25, 1958, he spoke on 'Man and plants' at the Joaquín Menéndez Public Library, then presided by Villalba, in Parodi's native town of Pergamino. Parodi's ties with his city of origin were very strong, and the correspondence with the library's previous officers shows that he regularly sent his publications (starting with his paper on Pergamino's weeds; Parodi, 1926) and it includes records of a previous public lecture on 'Botany and the Renaissance's medicine' offered in March 1953, to which the letter reproduced as Fig. 1 was related.

Botany

Heinz Brücher (1915-1991). A German botanist and geneticist, during World War II Brücher was involved in the rescue of N.I. Vavilov germplasm collections. Later established in Argentina, Brücher corresponded with Parodi about cereals and native potato species. Letters exchanged between 1951 and 1954 reveal Parodi's decisive impulse to the publication of a Spanish version of Brücher's book on the origin and phylogeny of cereals (Brücher, 1955).

Mary Agnes Chase (1869-1963). Parodi's epistolary exchange with the distinguished American agrostologist Agnes Chase is by far the most voluminous and probably the most significant single documental piece in the entire letter collection. Its importance for studies on grass taxonomy clearly exceeded Parodi's lifetime, as underlined by the special treatment that these letters received after his death. They were carefully filed in chronological order, and a subject index containing ca. 500 plant names was prepared (probably under the direction of Elisa G. Nicora), which greatly facilitates letter consultation. Beyond being a testimony of standing collaboration between two botanists that felt mutual respect and admiration, this epistolary exchange shows the development of a warm friendship between Chase and Parodi.

Gerdt Guenther Hatschbach (1923-2013). Based in Curitiba, Brazil, this botanist sent Parodi grass specimens for identification along nearly twenty years.

Lucien Leon Hauman (1880-1965). Parodi was initiated in botanical research under Hauman's supervision, and when the Belgian botanist returned to Europe in 1925 Parodi replaced him as Professor

of Botany at the Faculty of Agronomy and Veterinary Science of the University of Buenos Aires. The correspondence reflects Hauman's permanent interest in the fate of the country where he had spent two decades, and especially in the progress made by the botanical laboratory he had founded in 1904 and had left in the hands of his beloved disciple. From 1938 onwards, letters show the flow of Hauman's contributions to a treatise on Argentina's vegetation, which –actually compiled by Parodi– would finally be published in 1947 (Hauman et al. 1947). In the postwar correspondence, the issue of the publication of a Manual of the Argentine Flora first appears. It had been completed by Hauman at the end of 1928 (L.L. Hauman to L.R. Parodi, August 25, 1948). During a short visit to Argentina in August-September 1949, Hauman brought an updated version of this manuscript, upon which some editorial work was immediately done with support of Argentina's Ministry of Agriculture. References to the Manual in the correspondence disappeared towards 1955, when it was evident that the publication project had reached a dead end. Hauman's work would be revived and published thirty years later by one of Parodi's disciples (Hunziker, 1984). On occasion of Hauman's 80th anniversary, Parodi and his associates sent him a congratulation letter which, deeply moved, Hauman answered: '*...Y es para mi una siempre renovada sorpresa la constatación de la permanencia del recuerdo de mi actuación en su país, despues ahora de 35 años. Es una gran satisfacción y hasta cierto punto un consuelo a la tristeza inseparable del envejecimiento...*' [*...And it is for me an ever renewed surprise to confirm how permanent the memory of my work in your country is, 35 years ago now. It is a great satisfaction which to a certain point comforts me from the sadness that growing old brings...*] (L.L. Hauman to L.R. Parodi, July 20, 1960). In his last preserved letter (October 10, 1962) Hauman celebrated the accomplishments that signalled the highest point of Parodi's career, which –we can reasonably assume– he legitimately felt as also his own.

Aylthon Brandão Joly (1924-1975). This brief but intense epistolary exchange contains many Parodi's identifications of Brazilian grasses sent by Joly. Parodi found several puzzling issues in Joly's material and frequently asked him to collect

additional specimens and undertake detailed field observations. The reasons of Parodi's interest are clearly stated in these lines: '*...las gramíneas de su país tienen gran interés para mí porque sólo así puedo interpretar bien las especies argentinas subtropicales, muchas de ellas originalmente descritas del Brasil...*' [*...the grasses from your country are of great interest for me, because this is the only way to understand Argentine subtropical species, many of which were originally described from Brazil...*] (L.R. Parodi to A.B. Joly, April 21, 1948).

Teodoro Meyer (1910-1972). The longest epistolary exchange in this selection, Meyer's letters show his trajectory from a private plant collector employed by a logging company in the Chaco region of Argentina, to his designation as Curator of the Herbarium of the Miguel Lillo Institute in Tucumán, then and now the largest plant collection in the country. Parodi identified hundreds of grasses collected by Meyer across northern Argentina, and helped him to increase his proficiency in botany. Parodi prologued Meyer's celebrated work on the Tucumán rainforest (Meyer, 1962).

Charlotte G. Reeder (1916-2009). Although this epistolary exchange also contains pieces signed by her husband, John R. Reeder, or by both of them, most of the exchange involved Mrs. Reeder alone. All possible issues relating to research on grasses (nomenclature, bibliography, collections, agrostologists, anatomy, and more) are present in these letters, which also offer a fresh account on the day-to-day work at the Reeder's laboratory. Aware of Parodi's illness, in her last letter Mrs. Reeder wrote '*...John joins me in sending our warmest personal greetings and best wishes for a quick and complete recovery...*' (C.G. Reeder to L.R. Parodi, April 4, 1966).

Bernardo Rosengurt (1916-1985). Trained as an agronomist and having worked for several years at cattle ranches in Uruguay, Rosengurt first acquired a deep knowledge of his country's rangelands and later developed solid agrostological skills, a career that parallels Parodi's. The extensive exchange of plant specimens, botanical publications and scientific opinions, eased by Rosengurt's frequent visits to Parodi's laboratory, explains that along the last years Rosengurt-Parodi correspondence was one between two friends that felt mutual scientific respect.

Augusto Gustavo Schulz (1899-1992). Excellent plant collector and self-taught botanist, Schulz career is comparable to that of his nephew Teodoro Meyer. For Parodi, Schulz was an inexhaustible source of grass specimens, keen observations on grass growth habits, and data on cultivated plants and their uses in the Chaco region of Argentina. Schulz' letters contain generous and simultaneously incisive passages: '*...la Segunda parte de su ENCICLOPEDIA. Lo felicito por haber dado cima a su obra cumbre, prueba evidente de su fortaleza espiritual e intelectual, a una apreciable edad, en que otros ya van a la deriva...*' [*... the Second part of your ENCYCLOPEDIA. My congratulations for having concluded your masterwork, a conclusive proof of your spiritual and intellectual strength, at a considerable age at which others already go adrift...*] (A.G. Schulz to L.R. Parodi, March 17, 1965).

Jason Richard Swallen (1903-1991). Most letters of this epistolary exchange were sent during the first ten postwar years, thus covering the period in which Swallen herborized in Brazil and paid a brief visit to Buenos Aires, where he met Parodi. The exchange of botanical remarks, regular specimens, fragments of type specimens, drawings, photographs, and publications, shows two agrostologists working at full intensity. The level of epistolary collaboration reached by Swallen and Parodi is only comparable to the one Parodi held with Agnes Chase.

DISCUSSION AND CONCLUSIONS

The relevance of personal correspondence to biographical research and to historical studies in general is undisputed. However, the edition of large epistolary exchanges poses notable difficulties, which can only in part be overcome by resorting to new tools, like the use of digital files stored in websites (Steinke, 2004). Argentina has a respectable trajectory of studies on history of science (Babini & de Asúa, 2003) but, for the above reason and perhaps due to other factors, published epistolary exchanges of local scientists are very rare. A few exceptions include the edition of Florentino Ameghino's correspondence (Torcelli, 1935), and a small selection of letters from Francisco P. More-

no to Germán Avé-Lallemant (Ferrari, 1998). The correspondence of Argentine botanists seems to have never been examined until now.

Written communication on paper with fellow scientists and experts was undoubtedly of capital importance for Parodi's work, as it has been for the whole scientific community from ancient times until the advent of electronic mail. Like those of other botanists, Parodi's regular letters were only part of an exchange effort that also included the circulation of publications, pressed plant specimens, drawings, seeds, and more; however, text letters are intrinsically amenable for analysis and reflect the correspondent's life and works in much finer detail than the other types of interchange.

Parodi's archive has reached us apparently complete and, although fragmented, it is entirely available at public institutions. Not less important, it is relatively rich in outgoing letters. As full-text copies or as abstracts made by himself, Parodi's own letters make ca. 18% of the whole epistolary exchange, a figure that compares favourably with those of other notable Argentines, like Juan María Gutiérrez (1809-1878; almost no outgoing letters in this collection, Moglia & García, 1979) and Pedro N. Arata (1849-1922; 9.9% of outgoing letters, Medan, forthcoming). The reasons behind the dearth of outgoing letters in epistolary exchanges include that (a) making copies of one's letters demands self-discipline and extra efforts and (b) few individuals, if any, think of their own correspondence as a valuable input for future biographical studies. The incoming / outgoing unbalance negatively affects the comprehension of the correspondents' dialogue and so it diminishes the value of the documentary body as testimony of their relationships. Searching for the lacking outgoing letters in other archives may be a formidable task, because correspondents may amount to the hundreds (if not thousands), and their archives may not be easily, if at all, available. But when they do, the comparison of records can be worth the search effort, as the following exercise will show.

The University and Jepson Herbaria Archives (University of California at Berkeley) holds the papers of the American botanist Lincoln Constance (1909-2001), who corresponded with Parodi between 1941 and 1964. When Berkeley's records were compared with Buenos Aires's, it resulted

that the number of correspondence pieces was almost the same in both of them (16 and 14 letters, respectively) but, surprisingly, only seven letters matched exactly together. In other words, each archive held several 'exclusive' letters of which no copy existed in the other. In both cases, the exclusive letters were predominantly incoming (five Constance's letters in Buenos Aires, and six Parodi's letters in Berkeley). This is too small a sample to make a generalization, but anyway the exercise suggests that completeness in correspondence archives, even in modern and well conserved ones, is probably exceptional.

This paper's approach to Parodi's extensive correspondence was double. On the one hand, it offers a general overview of the documents, including a full index that interested researchers can use to locate material of their interest; on the other hand, it presents a selective analysis of those epistolary exchanges in which Parodi's engagement, as measured by the amount of outgoing letters he decided to conserve as copies, was maximal.

The consultation of the appended index will show that virtually all actors in the field of modern Argentine botany until the time of Parodi's decease are represented in his epistolary exchanges, starting with figures pertaining to the *Period of National Organization and Birth of Science in Argentina*, as Parodi himself (1961) called it. These early local botanists, that had already started to work in the 19th century and corresponded with a young Parodi, include Alberto Castellanos, Juana Dieckmann, Cristóbal M. Hicken, Ana Manganaro, José M. Molfino, Augusto Scala, and Carlos Spigazzini. Among the correspondents from abroad are many, if not all, the relevant agrostologists of Parodi's time, including Agnes Chase, Albert S. Hitchcock, Charles E. Hubbard, and Robert Pilger.

Not surprisingly, the primary result of the selective analysis was a confirmation that research on grasses was precisely the central issue in Parodi's scientific life. This interest dominated his entire career and exerted a uniformizing effect upon his letters, blurring, to a certain degree, the differences that could be expected among the various types of correspondents he communicated with. That said, there are three instrumental aspects of Parodi as a correspondent which merit further comment. The first is his versatility, i.e. his ability to communi-

cate satisfactorily with individuals of considerably different interests, nationalities and education levels, in most cases reaching a sustainable balance between his own and his correspondent's conveniences. The second is the efficiency reached by Parodi's epistolary machinery, which during three decades placed at his disposal both a little army of plant collectors working for him in several countries, and a team of selected experts with whom to discuss critical botanical issues. Finally comes Parodi's reliability as a correspondent. Once he decided to start an exchange, he followed it consistently. Even the fact of keeping in his files many letters he never answered reveals a respectful attitude to correspondents in general, irrespective of the letters' intrinsic values.

Hopefully, this contribution will encourage others to undertake similar studies. As underlined by Steinke (2004), most historians are not editors and thus are more prone to use editions than to search for manuscript letters. It depends on us, Argentine botanists, to explore our institutions' archives to reveal how our predecessors drove the discipline to its present form. That will be the best possible tribute to their memory.

ACKNOWLEDGEMENTS

Blanca Arón de Eilberg, Silvana Gambino, María P. Ocariz, Cecilia Panizzo, and Cristina Villasenín helped at different stages of sorting and indexing Parodi's letters. Liliana C. Mallo kindly assisted with consultation of the Darwinion archive, and Amy Kasameyer provided the records of L. Constance's correspondence held at Berkeley. Miguel de Asúa, Roberto Ferrari and Andrea S. Vega offered helpful comments.

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