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To cite this version:

John Dolan. A cautionary tale: we choose who to cite, who to recognize-please do so carefully. Journal of Plankton Research, 2019, pp.1-3. 10.1093/plankt/fbz046 . hal-02283198

HAL Id: hal-02283198

https://hal.sorbonne-universite.fr/hal-02283198v1

Submitted on 18 Sep 2019

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J. Plankton Res. https://doi.org/10.1093/plankt/fbz046

EDITORIAL

A Cautionary Tale: We Choose Who to Cite, Who to Recognize - Please Do So Carefully

A couple of years ago I ran across an article revealing the remarkably evil side of a still currently celebrated biologist active from the 1877 to 1920. The article "Symbiogenesis: the Hidden Face of Constantin Merezhkowsky" (Sapp et al. 2002), by its title, is clearly more than an analysis of the contribution of Merezhkowsky to the theory of endosymbiosis (the origin of eukaryotic cell). It importantly exposed a very sordid life as a serial rapist of young girls, an outspoken proponent of racist proto-Nazi views (e.g., proposing the castration of all Jewish males), and death by an elaborate suicide. Nearly 100 years after his death, Merezhkowsky is regularly cited, sometimes unavoidably but many times not. Here I hope to show the obvious: one should actually have read the papers one cites and also consider if and how a paper should be cited.

Backstory

Previous to "symbiogenesis" Merezhkowsky worked as taxonomist, describing many diatoms and other protists both, planktonic and benthic. The revelations concerning Merezhkowsky struck a nerve as I had included a portrait of Merezhkowsky along with other pioneers and stars of plankton studies in my website of taxonomic monographs (Dolan 2018). Recently I re-read the paper and I believe the facts merit re-telling 17 years after the Sapp et al. paper appeared. The brief historical account below relies entirely on Sapp et al. (2002).

The Traveling Rapist and Diatomologist

In 1888 Merezhkowsky suddenly left the Crimea because of charges of pedophilia, abandoning his wife and young son to a life of poverty. He traveled to the Russian Biological Station in Villefranche-sur-Mer where he stayed for a few months. He then moved on to California; first to work in Northern California, apparently avoiding cities with large Russian immigrant communities. There, after being accused of raping a 14-year-old girl, he fled to Southern California. He worked at the Biological Station of San Pedro collecting and describing diatoms (Merschkowsky 1901), from many sites throughout California.

In 1902 he returned to Russia to a post at Kazan University. It was at about this time that he turned his attention to the origin of the chloroplast. Inn 1914, shortly before the outbreak of WW1, Merezhkowsky again fled Russia, not because of his anti-Semitic views and activities, nor his spying for the Czar, but because of a pedophilic sex scandal. He was charged with raping 26 young girls between 1905 and 1914, one as young as 7 years old. It was a nation-wide scandal and in the newspapers he was labeled the 'Marquis de Sade of Kazan'. He never returned to Russia. Merezhkowsky spent the years of WW1 in France

moving between Paris, Menton, and Nice. After WW1 he moved to Geneva and there in 1921 he committed suicide in an elaborate manner tying himself to his bed and gassing himself with a custom gas mixture and gas mask.

The Legacy of a Criminal

What is the legacy today of Constantin Merezhkowsky? First one could consider surprising the number, eight, and variety of species named for him: diatoms, invertebrates and ciliates, over a period of nearly 100 years, as shown in Table 1. The last species named for him was in 1968 by Alain Sournia who 11 years later would serve as an Editorial Board Member for ***JPR*** from the inaugural issue and onward for many years. In my opinion Sournia was not aware of the sordid side of Merezhkowsky, nor were the others who named species for him, as his reputation outside Russia was likely largely unknown before the appearance of Sapp et al. (2002). Nonetheless, the list does serve as a sharp reminder that caution should be exercised in honoring a person by naming a species.

Table One **Species named for Merezhkowsky**

1882 Diatom
Achnanthosigma mereschowskii (Reinhardt, 1882)
1885 Acorn Worm
Saccoglossus mereschkowskii (Wagner 1885)
1889 Diatom
Triceratium mereskovskii (Pantocsek, 1889)
1910 Diatoms
Navicula mereschkowskii (Müller 1910)
Sellaphora mereschkowskii (Müller 1910)
1914 Hydroid
Thuiaria mereschkowskii (Kudelin 1914)
1929 Tintinnid Ciliate
*Metacylis mereschkowskii (Kofoid & Campbell 1929)
1932 Hypotrich Ciliate
*Stichotricha merschkowski (Kahl 1932)
1968 Diatom
Licmosphenia mereschkowskyi (Sournia 1968)

*planktonic taxa

A bibliometric approach to his current legacy is to consider relatively recent citations of Merezhkowsky, specifically, citations made well after the appearance of Sapp et al (2002), as shown in Figure 1. The citations from 2009 to 2018 are shown parsed into 2 groups, those with cites concerning specific organisms (mostly papers on diatoms), and those with cites concerning symbiogenesis. The

citations concerning diatoms and other organisms can be considered as likely unavoidable as citation of original taxonomic authorities is often obligatory. Another matter entirely are the citations of Merezhkowsky with regard to Endosymbiotic Theory, especially those papers which honor him as the source of the theory by citing "Symbiogenesis: the Hidden Face of Constantin Merezhkowsky" without any mention of his dark side (Fig 1).

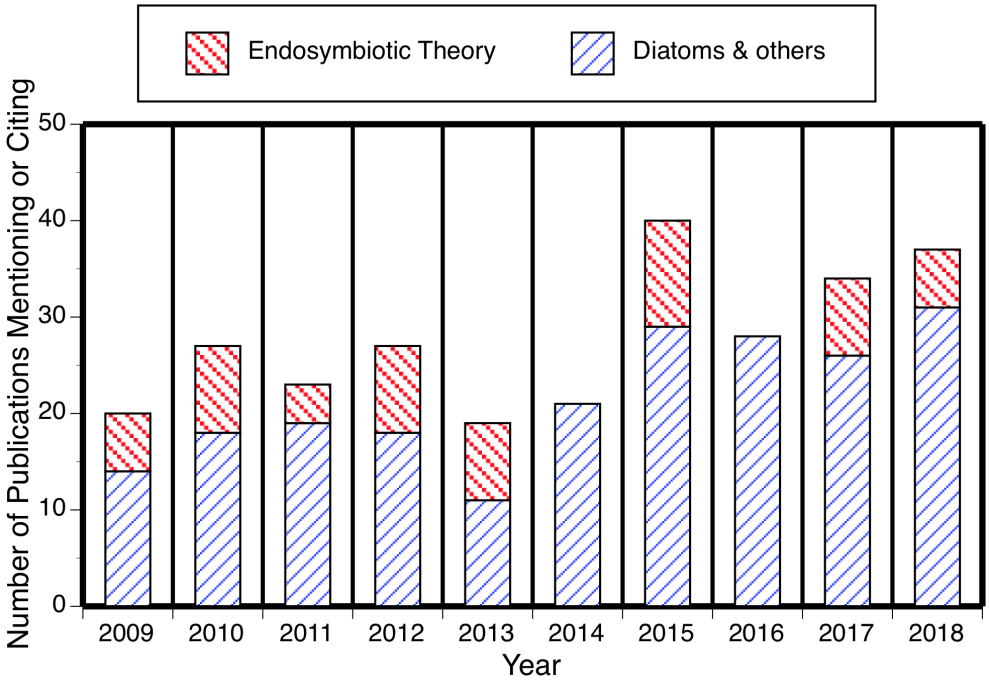

Fig. 1. The number of publications by year which cited or containing the word "Merezhkowsky", or one of the spelling variants of the name. Publications were parsed into 2 groups: taxonomic publications in which his name appears as a taxonomic authority (largely dominated by diatom studies), and a second group in which he is mentioned or cited in reference to "Endosymbiotic Theory". Numbers at the top of the column indicate the number of papers which cited the Sapp et al. 2002 paper in attributing an endosymbiotic origin of chloroplasts to Merezhkowsky without any mention of his dark side nor the work of his predecessors. Citation data from Google Scholar retrieved July 5, 2019.

The citations to Sapp et al. 2002 with regard to Merezhkowsky and endosymbiotic theory are especially noteworthy because the paper not only points out the evil side of Merezhkowsky, but it also clearly states that he was not the originator of the proposition that chloroplasts are derived from endosymbiotic algae. As the paper states, it was suggested by many people, for example specifically by Schimper as early as 1883 (Schimper 1883), 22 years before Merezhkowsky. Furthermore, Merezhkowsky did little or no actual field or experimental work on the topic. Unlike Merezhkowsky, Famitizan (1889) worked extensively on algal symbiosis, on a large variety of organisms (including planktonic tintinnid ciliates) and he attempted to culture chloroplasts outside the algal cell, all well before Merezhkowsky's oft-cited 1905 paper. In fact, the sole originality of Merezhkowsky, with regard to the origin of the chloroplast,

was proposing cyanobacteria as a symbionts based simply on the relatively simple structural characteristics of cyanobacteria.
It seems rather unjust then that, since 2009, Merezhkowsky 1905 has been cited 123 times compared to Schimper 1883 cited but 37 times and Famintzin not cited at all. In place of a portrait of the criminal Merezhkowsky, Figure 2 shows two of the relatively neglected pioneers of the endosymbiotic theory of the origin of the chloroplast: Andreas Franz Wilhelm Schimper and Andrei Sergeyevich Famintsyn.

Fig 2. Neglected pioneers of the theory of the endosymbiotic origin of chloroplasts: Andrea Franz Wilhelm Schimper and Andrei Sergeyevich Famintsyn.

The likely, simplest, and most charitable explanation for people blindly citing the Sapp et al. 2002 paper is author laziness, meaning those who cited the paper probably did not actually read it and most certainly did not carefully consider who first postulated a symbiotic origin for the chloroplast nor the nature of the man they cite. Examining the citations of the Sapp et al. 2002 paper I found but two instances in which the dark side of Merezhkowsky is mentioned and both were in books: John Archibald's *One plus One Equals One: Symbiosis and the Evolution of Complex Life* (Archibald 2014) and Ted Anton's *Planet of Microbes: the Perils and Potential of Earth's Essential Life Forms* (Anton 2017). One might speculate that in writing a book one pays more attention to how one cites than when writing an article?

Take Home Lesson

As scientists we are the producers of publications through writing, the arbitrators of publications through reviewing, and the users of publications through our citing of previous work. In writing we use other publications. We have considerable freedom to cite or not cite. In reviewing we have freedom to

advise authors on what to cite or not cite. Here I hope to have convinced that it is important to have actually read the papers one cites and then to carefully consider exactly how a paper should be cited. Relatively few among us I hope will unthinkingly cite or distinguish a proto-Nazi and serial child rapist whose work was not unquestionably original.

ACKNOWLEGEMENTS

Dave Montagnes, Sabine Agatha, Maya Dolan, and Lulu Stadler kindly provided comments on a previous version of the text. However, I retain full responsibility for all errors of fact and interpretation.

REFERENCES

Anton, T. (2017*) Planet of Microbes: the Perils and Potential of Earth's Essential Life Forms*., University of Chicago Press, Chicago.

Archibald, J. (2017) *One plus One Equals One: Symbiosis and the Evolution of Complex Life*. Oxford University Press, Oxford.

Dolan JR 2018. http://aquaparadox.obs-vlfr.fr/html/ClassicMonographs.php

Famintzin, A. (1889) Beitrag zur Symbiose von Algen und Thieren. Mémoires de l'Académie Impériale des Sciences de St. Pétersbourg, 7 sér., 36, n° 16.

Kahl, A. (1932) Urtiere oder Protozoa I: Wimpertiere

Kofoid, C.A., and Campbell, A.S. (1929). A conspectus of the marine and freshwater ciliata belonging to the suborder Tintinnoinea, with descriptions of new species principally from the Agassiz Expedition to the Eastern Tropical Pacific 1904-1905. Univ. Calif. Pub. Zool., 34, 403

Kudelin, N.V. (1914) Hydraires (Hydroidea). Volume II. Livraison 2. Zu Faune de la Russie et des pays limitrophes fondee principalement sur les collections du chusee Zoologique de l'Academie Imperiale des Sciences de Petrograd, Petrograd

Mereschkowsky, C. 1901. A list of California diatoms. Ann. Mag. Nat. Hist. 7, 292-300, 474-480, 505-520.

Mereschkowsky, C. (1905). Uber natur und ursprung der chromatophoren im pflanzenreiche. Biologisches Centralblatt, 25, 293-604.

Müller, O. (1910). Bacillariaceen aus dem Nyassaland und einigen benachbarten Gebieten. IV Folge, Naviculoideae- Naviculeae-Naviulinae, Fragilarioideae-Fragilarieae-Fragilarineae, Fragilarioideae-Fragilarieae-Eunotiinae. (Engler's) Botanische Jahrbucher fur Systematik, Pflanzengeschichte, und Pflanzengeographie. Leipzig, 45(1): 69-122

Pantocsek, J. (1889). Beiträge zur Kenntnis der Fossilen Bacillarien Ungarns. Teil II. Brackwasser Bacillarien. Anhang: Analyse de marine Depots von Bory, Bremia, Nagy-Kurtos in Ungarn; Ananio und Kusnetzk in Russland. Nagy-Tapolcsány, Buchdrucherei von Julius Platzko.

Reinhard, L. (1882). Zur Kenntniss der Bacillariaceen des Weissen Meeres. Bulletin de la Société Impériale des Naturalistes de Moscou, 57, 297-304

Sapp, J, Carrapiço F, and Zolotonosov, M. 2002. Symbiogenesis: the hidden face of Constanin Merezhkowsky. Hist. Phil. Life Sci. 24, 416-440.

Schimper A.F.W. 1883, Über die Entwicklung der Chlorophylkörner und Farbkörner. Botanische Zeitung, 41: 105-114.

Sournia, A. (1968). Diatomées planctoniques du Canal de Mozambique et de l'ile Maurice. Mémoires de l'Office de la Recherche Scientifique et Technique Outre-Mer. 31.

Wagner, N. (1885). Die Wirbellosen des Weissen Meeres. Erster Band : zoologische Forschungen an der Küste des Solowetzkischen Meerbusens in den Sommermonaten der Jahre 1877, 1878, 1879 und 1882.

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