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# The Republic of Letters in transition: William Thomson and natural philosophy ca. 1850

## (1) Introduction

A look at the recent literature in the history of science may suggest that the venerable notion of the Republic of Letters is enjoying a new life. Half a dozen books produced over the past twelve years touched upon the Republic already in their title. If we add a few articles and chapters in books, we get a substantial, recent bibliography on the old notion according to which intellectuals, including scientists and their predecessors in early modern Europe, may be said to have belonged to an ideal, undivided "Republic" regardless of their local allegiances.<sup>1</sup>

Interestingly, recent attention for the Republic of Letters has come both from historians working within the perspective of intellectual history, and from scholars active in the area of science studies. For the first group the interest is easily explained by a research tradition that goes back to the history of ideas. For the second group — the science studies scholars — the circumstance is less obvious, and more interesting for us here. Indeed, some the most perceptive, recent reflections on the Republic of Letters have come from the same circles of scholars who, over the past twenty years, have supported what has been called "the 'localist' or 'geographical' turn in science studies."<sup>2</sup>

We may wonder why: why scholars, who have made a point of exposing the myth of the universalist claims of modern science, are now paying attention to a notion likely to be considered an obvious by-product of the universalist ideology circulated by modern science, and hence an obvious target for an attack against that ideology.

I think that the recent interest in the Republic of Letters on the part of scholars working in the area of science studies is a significant development. It may give new if unexpected substance to a remark that a leading scholar in that field, Steven Shapin, made eight years ago when he remarked that the localist turn in science studies still had "a long way to go."<sup>3</sup> Renewed interest in the Republic of Letters may show a new awareness of how important it is to investigate, side by side with the real,

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<sup>&</sup>lt;sup>1</sup> Books include: Dena Goodman, *The republic of letters: A cultural history of the French Enlightenment*, (Ithaca, N.Y.: Cornell Univ. Press, 1994); Anne Goldgar, *Impolite learning: Conduct and community in the Republic of Letters, 1680–1750* (New Haven, Conn.: Yale Univ. Press, 1995); Hans Bots, Françoise Waquet, *La République des lettres* (Paris: Belin, 1997); L. W. B. Brockliss, *Calvet's web: Enlightenment and the Republic of letters in eighteenth-century France* (Oxford University Press, 2002); *Jesuit science and the republic of letters,* edited by Mordechai Feingold (Cambridge, Mass., London: MIT Press, 2003); Noël Golvers, *Ferdinand Verbiest, S.J. (1623–1688) and the Chinese heaven: the composition of the astronomical corpus, its diffusion and reception in the European republic of letters* (Leuven: Leuven University Press, Ferdinand Verbiest Foundation, 2003); *Les grands intermédiaires culturels de la République des Lettres. Études de réseaux de correspondance du XVIe au XVIIIe siècle*, Présentées par C. Berkvens-Stevelinck, H. Bots et J. Häseler (Paris: Honoré Champion, 2005). Articles include: Lorraine Daston, "The ideal and reality of the Republic of Letters in the Enlightenment", *Science in Context*, 1991, vol. 4, p. 367–386. Sonja Brentjes, "The interest of the Republic of Letters in the Middle East, 1550–1700, *Science in Context*, 2003, vol. 16, p. 89–120; Robert Mayhew, "Mapping science's imagined community: Geography as a Republic of Letters, 1600–1800", *British Journal for the History of Science*, 2005, vol. 38, p. 73–92.

<sup>&</sup>lt;sup>2</sup> Steven Shapin, "Placing the view from nowhere: historical and sociological problems in the location of science", *Transactions of the Institute of British Geographers*, 1998, vol. 23, p. 5–12, See also Jan Golinski, *Making natural knowledge. Constructivism and the history of science* (Cambridge etc.: Cambridge University Press, 1998), ch. 3.

<sup>&</sup>lt;sup>3</sup> Shapin (1998, note 2), p. 9.

local communities in which scientists are rooted, also those other communities that a geographer, Robert Mayhew, has called recently *imagined* communities.<sup>4</sup>

Imagined communities in the sciences can be identified, for example, by studying the citation patterns prevailing in a certain discipline: citations that typically involve colleagues both from within and across national borders. Citation patterns of course have limitations as a tool, but the notion of imagined communities and the plea implicit in focusing on them now that the localist turn has gone some way are I think worthy of attention.

As I see it, once we have got rid of the mythological aspect of the Republic of Letters notion, what remains to be understood is precisely the role played by imagined communities in the dynamics of science. Only by considering these communities will we have a chance to understand how local *and* distant factors combine in the production of knowledge.<sup>5</sup>

What I propose to do in my talk is an exercise in this kind of investigation. The period I will be talking about is the early Victorian period. The field is "natural philosophy" at a time when it was shifting into the discipline we now call physics. The scientist I will take as an exemplar is William Thomson, later Lord Kelvin. I will explore how the imagined, international communities of natural philosophers and experimenters Thomson claimed to belong to combined with powerful local factors in shaping his early career, as well as the physics laboratory that he developed at the University of Glasgow in the late 1840s.

#### (2) Politics

To begin with, let me say a few words about the historical period I will be talking about, the early Victorian age, and about politics. The notion of a Republic of Letters properly belongs to a time and circumstances that precede the time and circumstances I will be considering. Among historians it is agreed that the notion of an ideal Republic of intellectuals belongs to early-modern Europe and to the eighteenth-century. According to current periodizations, after the Napoleonic wars the old cosmopolitan ideal had to face the growing challenges posed by ever more powerful nation-states. In order to survive, we are told, the cosmopolitan ideal had to turn into one form or another of what was called, later in the nineteenth century, internationalism.

However, it should also be noted that, within the British liberal circles I will be considering, the period from the end of the Napoleonic wars to mid-century was depicted as especially conducive to international undertakings. Around mid-century, that period became known in England as "the thirty years peace". A book bearing that title was published in London in 1849 by Harriet Martineau, the writer who circulated the ideas of Malthus, Ricardo and John Stuart Mill among the British public.<sup>6</sup> As is well-known, Martineau conveyed views often subscribed to in political circles that saw science as an important new factor in society, and in international relations as well. Indeed, in Britain the period from 1815 to the end of the 1840s saw a number of initiatives bearing traces of the old cosmopolitan ideal. The 1840s, for example, saw the posthumous publication of Jeremy Bentham's *Principles of international law*, in which Bentham advocated the elimination of wars basically for the benefits deriving to commerce.<sup>7</sup> Martineau also circulated the works of French philosopher Auguste Comte in Britain. Comte supported what he called "the co-operation of the best minds in each nation". According to Comte, recently established societies like the associations for the advancement of

<sup>&</sup>lt;sup>4</sup> Robert Mayhew (2005, note 1). The notion of "imagined communities" was used by Benedict Anderson to explore the origin and spread of nationalism; see: Benedict Anderson, *Imagined communities. Reflections on the origin and spread of nationalism* (London and New York: Verso, 2006; first edition 1983). Anderson's treatment is an appropriate antidote to the historians' of science temptation to idealize science's imagined communities. I am grateful to Joan Cadden for having led me to Anderson's book, pointing out its possible relevance for the argument developed here.

<sup>&</sup>lt;sup>5</sup> For some perceptive reflections on "knowledge as constituted through a range of distance-based partial perceptions", see Mario Biagioli, *Galileo's instruments of credit. Telescopes, images, secrecy* (Chicago etc.: The University of Chicago Press, 2006), pp. 23–26.

<sup>&</sup>lt;sup>6</sup> Harriet Martineau, The history of England during the thirty years' peace: 1816–1846 (London: Knight, 1849).

<sup>&</sup>lt;sup>7</sup> In: Jeremy Bentham, *Works*, John Bowring (ed.) (1843), vol. 2, p. 535–560.

science expressed, in different countries, "the true cosmopolitan character of modern science".<sup>8</sup> Comte's views were further circulated in Britain by John Stuart Mill.<sup>9</sup> They were received favorably also by scientists like David Brewster, who in 1845 was among those willing to support young William Thomson's European ambitions.<sup>10</sup>

I am mentioning all this to emphasize that, in the 1840s, the upper-middle-class intellectual elites to which Thomson belonged could perceive the relatively "pacific" age in which they lived as especially conducive to international cooperation. This perception could easily merge with the cosmopolitan rhetoric that, since the eighteenth century and before, had depicted the natural sciences as a crossnational undertaking.

But let me turn to Thomson himself to see how, concretely, the cosmopolitan rhetoric was made to fit into the reality of local needs and circumstances, and how international communication contributed to shaping the many faces of William Thomson.

## (3) The many faces of William Thomson

Yes, because in the history of science Thomson is a sort of Hydra, the many-headed monster. According to Jed Buchwald, Thomson was "the quintessential (and perhaps first) *engineering* scientist".<sup>11</sup> To describe Thomson's endeavors, one of his major biographers — Crosbie Smith — has spoken of "Thomson's scientific capitalism".<sup>12</sup> A historical sociologist (Terry Shinn) has described Thomson as "the scientist / engineer / technician".<sup>13</sup> Olivier Darrigol has called attention to the "cross-cultural purpose" pursued by Thompson with his concepts and apparatus meant for "physicists of various schools, chemists, mathematicians, or engineers".<sup>14</sup> To make things more intriguing, according to one of his contemporaries Thomson was above all "the high priest of electricity", celebrating for popular audiences the achievements of the science and early industry of electricity.<sup>15</sup>

For sure, young Thomson had been trained to become a "master of theory", to use Andrew Warwick's phrase.<sup>16</sup> Thomson had attended Cambridge at a time when that university was shaping what we now call mathematical physics, and already as a Cambridge student he had achieved important results in what he preferred to call "physical mathematics."

Yet, Thomson's background in Glasgow had provided him with a taste for broader interests and a range of different concerns. It was certainly no coincidence if, eight years after his appointment as professor of natural philosophy in industrial Glasgow, he ventured into the first of a series of telegraph patents. In another three years he was one of the chief technicians on board the ships laying the first Atlantic cables, and a director of the Atlantic Cable Company.

So who really was William Thomson? The Cambridge-trained, mathematical physicist cherished by twentieth-century historians of physics? Or the keen engineer-electrician laying transatlantic cables celebrated in Victorian popular magazines? Or the proud inventor of instruments and machines, the businessman who helped the telegraph industry and the British Empire to achieve some of their most

<sup>&</sup>lt;sup>8</sup> Auguste Comte, *The positive philosophy, freely translated and condensed by Harriet Martineau (sine loco:* Chapman, 1853).

<sup>&</sup>lt;sup>9</sup> John Stuart Mill, Auguste Comte and positivism (sine loco: Trubner, 1865).

<sup>&</sup>lt;sup>10</sup> Silvanus P. Thompson, *The life of William Thomson* (London: Macmillan, 1910), p.115.

<sup>&</sup>lt;sup>11</sup> Jed Z. Buchwald, "Energy and empire", essay review of Crosbie Smith and M. Norton Wise, *Energy and empire: A biographical study of Lord Kelvin* (1989), *British Journal for the History of Science*, 1991, vol. 24, p. 85–94, here p. 88, emphasis added.

<sup>&</sup>lt;sup>12</sup> Crosbie Smith, "Nowhere but in a great town: William Thomson's spiral of classroom credibility", in: *Making space for science. Territorial themes in the shaping of knowledge*, ed. by Crosbie Smith and Jon Agar (London: Macmillan, 1998), p. 118–146, here p. 142.

<sup>&</sup>lt;sup>13</sup> Terry Shinn, "Change or mutation? Reflections on the foundations of contemporary science", *Social science information*, 1999, vol. 38, p. 149–176, here p. 155.

<sup>&</sup>lt;sup>14</sup> Olivier Darrigol, *Electrodynamics from Ampère to Einstein* (Oxford etc.: Oxford University Press, 2000), p. 77.

<sup>&</sup>lt;sup>15</sup> As reported in: M. A., University Pamphlets. II. Personal Experiences (Glasgow: Robert L. Holmes, 1882), p. 73.

<sup>&</sup>lt;sup>16</sup> Andrew Warwick, *Masters of theory. Cambridge and the rise of mathematical physics* (Chicago etc.: The University of Chicago Press, 2003).

ambitious goals, while earning him a knighthood, and enough money to buy a grandiose house and a yacht worthy of a royal prince?

Each one of these descriptions tells us something about Thomson; yet the historians' tentative descriptions reveal that the combination of different professional and social types in the same person may raise problems for our understanding. In what follows, by dealing with some of Thomson's international endeavors, I will be addressing also the question of how he managed to combine different professional types into the same person.

Perhaps imagined, international communities, and the ability of individuals to play with several communities at a time — imagined, and real — is what is at stake when we get into trouble in our attempts to force historical characters into clear-cut ideal types.

## (4) Local opportunities

But first let me say a little more about the local opportunities supporting Thomson's career, and how they led to international intercourse.

It is well known that Thomson's career began within the context provided by the old tradition of natural philosophy teaching at the University of Glasgow.

It is part of that well-known story that Thomson's father, himself professor in Glasgow and a notable Whig, had begun maneuvering for his son to succeed to the chair of the aging professor of natural philosophy when William was barely 18. But we are not interested in the history of nepotism here.

Within that well-known story, historians have assumed that Thomson's achievements as an excellent young mathematician and a Second Wrangler in Cambridge, together with the acquaintance he had with French mathematics, were obvious assets in the campaign for the chair.

The truth was quite the reverse. The letters exchanged by father and son on what was expected of a professor of natural philosophy in Glasgow show that Thomson had to fight hard to convince both allies and adversaries that he was not "a mere mathematician".

A survey that William's father carried out of the expectations of the professors and of potential rivals in the contest, revealed that the two most valued assets for a winning candidate were, first, a demonstrated ability in "performing experiments", and, second, a "European reputation." After that survey, "to get some practical experimental knowledge as soon as possible", and an exposure to the cosmopolitan side of natural philosophy, became agreed priorities for Thomson.<sup>17</sup>

But how could the young, Cambridge-trained mathematician obtain an acquaintance with "the manipulations of experimental philosophy", and a European fame quickly?

The answer, quite obvious in a family like the Thomsons touring the continent every summer, was travel. Within days of passing his finals in Cambridge, Thomson was in Paris determined to obtain there what he still lacked after six years as a student in Glasgow and three years in Cambridge. We might call Thomson's strategy on the occasion: exotic answers to local challenges.

## (5) Exotic answers to local challenges

Aware that in Glasgow his fame was that of a mathematician "too deep to have popular talent",<sup>18</sup> Thomson used Paris as a remedy.

During the four and a half months that he spent there in 1845 he exploited Paris as a shopping mall offering exposure to — and testimonials of accomplishment in — all sorts of experimental natural philosophy, serious and popular.

He attended, in order of decreasing popular appeal, the lectures of Pouillet, Dumas, and Pelouze; and finally he was admitted as an assistant of sorts to the laboratory of the youngest and least popular of all: Victor Regnault, recommended by old Biot as the best physicist in Paris.

As seen through the eyes of young Thomson, lecturers in Paris distinguished themselves by the abundant experimental apparatus they used, which was — he noted — "exceedingly good and on a very extensive scale". Another, connected feature was that "all the things" were "prepared with great care beforehand", so that — Thomson noted — public experimental performances seldom failed.<sup>19</sup>

<sup>&</sup>lt;sup>17</sup> Silvanus P. Thompson (1910, note 10), p. 56, 54.

<sup>&</sup>lt;sup>18</sup> *Ibidem*, p. 116.

<sup>&</sup>lt;sup>19</sup> *Ibidem*, p. 117.

To write down lists of the instruments that Regnault and others used in their "cabinets de physique" was Thomson's next step. It was urged on William by his father, well aware that a major commitment of the future professor of natural philosophy in Glasgow would be to renew the old demonstration apparatus preserved there and, with new spectacular demonstrations, to help draw larger crowds of paying students to the class.<sup>20</sup> In the Scottish university tradition, students paid fees directly to the professors, thus contributing to about half of the professors' income: a challenge for which young Thomson's mathematical talent was of little help.

So, prompted by personal career motives and by Glasgow's opportunities and challenges, in Paris young Thomson launched himself on a conscious process of imitation of the French. The process was to link Glasgow and Paris in the field of natural philosophy for years to come.

#### (6) Imitation

The most tangible side of the imitation process linking Glasgow and Paris was the stream of experimental apparatus that reached Thomson's laboratory from Paris over the years. The Paris instrument-makers involved in the imitation game included Marloye, Froment, Silbermann, Frastré, Pixii, Duboscq, and Ruhmkorff.<sup>21</sup>

The ties with enterprising French instrument makers were reinforced during subsequent visits that Thomson paid to Paris. For example in the summer of 1847, when he spent two full days in Marloye's workshop; or again in the fall of 1850, when he saw some beautiful experiments, conceived by Foucault, performed in Duboscq's workshop.

One of the latter experiments is worth recalling in Thomson's own words. The words convey his enthusiasm — placed somewhere at the intersection between machines, manipulative expertise, and physics teaching — that helps understand the different "faces" he later developed that still cause problems when assessing Thomson's place in the history of science and technology today. Let us read a few lines from Thomson's notes in Paris:

A prism and lenses were arranged to throw upon a screen an approximately pure spectrum of a vertical electric arc between charcoal poles of a powerful battery, the lower one of which was hollowed like a cup.

When pieces of copper and pieces of zinc were separately thrown into the cup, the spectrum exhibited, in perfectly defined positions, magnificent well-marked bands of different colours characteristic of two metals.<sup>22</sup>

Those familiar with Thomson's later demonstrations with mirror electrometers and galvanometers will see the similarities between the demonstration set-up described here in Paris and the one adopted by Thomson later; for example during the Friday evening lecture at the Royal Institution in 1860, when he projected on a big screen the readings of atmospheric electricity captured with his instruments by assistants walking among the public in the crowded lecture hall.<sup>23</sup>

Let me insist: The demonstration recorded in Thomson's notes went on in the workshop of an instrument maker in Paris. Mr. Duboscq-Soleil was performing, assisted by the Abbé Moigno. The demonstration had been devised by Foucault, himself an interesting blend of a philosopher and an experimenter, and the Cambridge-trained young professor of natural philosophy from Glasgow was taking notes. No surprise that in the following years the ordering, shipping and setting up of French instruments occupy such a prominent place in the records of Thomson's laboratory in Glasgow.

Around 1850, of course, the lessons to be learnt in Paris on how best to conduct the business of natural philosophy were far from unique to that place. Once the chair in Glasgow had been secured —

<sup>&</sup>lt;sup>20</sup> *Ibidem*, p. 127.

<sup>&</sup>lt;sup>21</sup> As from William Thomson's laboratory vouchers, National Archives of Scotland.

<sup>&</sup>lt;sup>22</sup> William Thomson, *Popular lectures and addresses*, London: Macmillan, 1889, vol. II, p. 132–205, here p. 173. Thomson must have relied on his notes written in Paris when, in 1871, in the context of the presidential address delivered to the British Association in Edinburgh, later published in his *Popular lectures*, he described his 1850 visit to Dubosq's in such detail.

<sup>&</sup>lt;sup>23</sup> William Thomson, *Reprint of papers in electrostatics and magnetism* (second edition, London: Macmillan, 1884), p. 208–225, esp. p. 221–3.

a feat in which Thomson's French contacts played a role<sup>24</sup> — he expanded the scope of the imitation game further. In a few years, thanks to frequent travels, the range of models Thomson was inspired by included people and laboratories in the German states, Switzerland, and Scandinavia, as well as France. Thomson's laboratory practice in Glasgow was affected accordingly.

The imitation game I am talking about could, of course, take place also at a local or regional level, and — interestingly — it could occasionally involve crossing *disciplinary* as well as national borders.

A visit to the natural philosophy class of Edinburgh University for example convinced Thomson that his class, too, must have a system for darkening the room quickly, to add drama to the spectacle of optical demonstrations. When it came to the "professor's platform table" — as Thomson called it — the models offered by lecture halls intended for *medical* teaching were considered. As to the best features of a "plan of benching" appropriate to the natural philosophy class, the solution adopted by *astronomers* appeared to Thomson the most desirable, and that was "a massive stone pier, independent of the flooring" to avoid unwanted oscillations during delicate optical or electrical demonstrations.<sup>25</sup>

#### (7) Imagined communities

I have focused on the demonstration and teaching apparatus to show how *concrete* the effects of international exchange could be.

It should also be stressed, however, how *loose* the community of people involved in the imitation process was. No substantial correspondence developed between Thomson and his colleagues or the instrument makers in Paris as a result of those exchanges: the imitation game between Glasgow and Paris I am talking about *did not eliminate distance*. The presupposed "community" was, and remained, imagined rather than real.

Similar considerations apply, I think, to another "imagined community" in which Thomson was involved; a community that has attracted much attention from historians of physics. This was the transnational community of scholars involved in the theoretical development of electrodynamics. As Olivier Darrigol has shown, Thomson was a very good navigator as a member of that community too. As is well known, the community of the experts in electrodynamics included different, occasionally opposed traditions, such as British vs. Continental, Weberian vs. Neumanian, Thomsonian vs. Maxwellian. In that context Thomson excelled above all as a *mediator*, able to get the best out of what he met with, without on the other hand developing closely-knit networks of allies, or foes for that matter.<sup>26</sup>

One might say that the loose, imagined communities I am talking about have a major strength on their side: their divisions can be crossed relatively easily, and trespassing is tolerated comparatively well, better than in the stronger, local communities we are familiar with.

#### (8) Patents

Considerations about the role of loose, imagined communities — and comparatively easy trespassing — can help our understanding of another, momentous turn in Thomson's career. The one associated with the decision, which Thomson and two of his colleagues in Glasgow agreed upon in 1854, to take up a patent in the field of telegraphy.

Historians of science have rightly emphasized that the semi-aristocratic tradition of the Republic of Letters made it unlikely for a university professor of natural philosophy like Thomson to take out a patent. And indeed what we know about Thomson's first patent confirms that the initiative was of his colleague William John Macquorn Rankine, an industrial consultant as well as a professor of engineering, and a much appreciated physicist.<sup>27</sup>

<sup>&</sup>lt;sup>24</sup> Regnault and Liouville were among the persons who furnished Thomson with testimonials on the occasion of his application for the Glasgow chair: Silvanus P. Thompson (1910, note 10), p. 177, 179–180.

<sup>&</sup>lt;sup>25</sup> As documented in manuscripts preserved among the Kelvin Papers, Glasgow University Library, Special Collections.

<sup>&</sup>lt;sup>26</sup> Darrigol (2000, note 14), p. 77, 136.

<sup>&</sup>lt;sup>27</sup> See Kelvin to Stokes, 1 December 1854, in: *The correspondence between Sir George Gabriel Stokes and Sir William Thomson*, ed. by David B. Wilson (Cambridge etc.: Cambridge University Press, 1990), 2 vols., p. 182.

However, the daily life of the laboratory that Thomson set up after 1846 pursuing his penchant for the "loose", international communities I am talking about show that the instruments, know-how and manpower available to him around 1850 could be turned quite easily into research facilities for the kind of industrial investigations — materials testing and instrument-development — required for telegraph patents.

Thomson's decision in 1854 to join the contemporary telegraph craze was no doubt rooted in circumstances, people, and interests linked to Glasgow: Crosbie Smith was right when he stressed this basic point in a fascinating chapter a few years ago.<sup>28</sup> And yet, it is just as appropriate to say that the expertise and the laboratory facilities that Thomson threw into his patent venture in telegraphy from 1854 onward had been molded by the experience he had already acquired through the imitation game on a European scale — involving experimenters and instrument makers, as well as natural philosophers — that I have discussed here.

## (9) Conclusion

I would like to conclude with a few reflections on the uses of the Republic of Letters that we have seen at work in William Thomson's endeavors around 1850.

For that purpose, I would like to evoke a metaphor that Thomas Nagel introduced some years ago into philosophical debate; a metaphor appropriate to the general theme of our conference, and one often quoted — in a polemical vein — within the literature supporting the "localist turn" in science studies. It is the metaphor of "the view from nowhere".<sup>29</sup>

Nagel used the metaphor in an attempt to capture the rationale of our efforts aimed to reach *a degree* of objectivity in our knowledge. Nagel's claims concerning our attempts to attain a "view from nowhere" were quite modest. He made the point that a view or form of thought is more objective than another if it relies *less* on the specifics of the individual's makeup, and on his or her position in the world. Nagel's point was that there is no absolutely objective view of things, but it may be worthy trying to reach "the view from nowhere".

I think we may say that the loose, imagined communities that scientists like Thomson conceived and temporarily joined in their endeavors across the Republic of Letters amounted to just as many attempts to reach "the view from nowhere" in the search for objectivity.

After the localist turn we know that, of course, no such view can possibly be attained. And yet, as we have seen, even pragmatic, locally oriented, engineering, "capitalist" scientists like Thomson occasionally indulged in that impossible exercise.

I suggest that we too, the historians of science, should from time to time be allowed to indulge in the search of the view from nowhere, if we really want to understand how local *and* distant factors combine in scientific practice. Happily, as I see it at least, this is precisely the exercise that we are making here in Cracow thanks to the European Society for the History of Science.

I wonder, however, how you will react to my suggestion that we might be here chasing after the dream of an impossible view from nowhere. Or how you will react to another suggestion I would like to make before stopping: that our European Society for the History of Science might be yet another *imagined* community, serving the same intriguing functions that we have seen at work discussing William Thomson and the Republic of Letters in transition.

<sup>&</sup>lt;sup>28</sup> Crosbie Smith (1998, note 12).

<sup>&</sup>lt;sup>29</sup> Thomas Nagel, *The view from nowhere* (Oxford etc.: Oxford University Press, 1989).