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Submission Guidelines

Articles, meeting notices, and notes likely to be of interest to persons interested in the thought of Michael Polanyi are welcomed. Manuscripts normally will be sent out for blind review.

- Articles should be 5,000 words (including abstract, notes, and references) and be sent to Paul Lewis at lewis_pa@mercer.edu.
- Book reviews should be sent to Walter Gulick at wgulick@msubillings.edu.

All manuscripts should be submitted as a Microsoft Word file (.doc or .docx) attached to an email message and formatted as follows:

- double-spaced, with 1" margins
- in a reasonable typeface (Times New Roman 12 is preferred)
- with paragraphs indented 0.25"

As to other matters of style:

1. *Spelling*: We recognize that the journal serves English-speaking writers around the world and so do not require anyone's "standard" English spelling. We do, however, require all writers to be consistent in whatever convention they follow.

2. *Citations*: We recognize that Polanyi's work connects with scholars who work in diverse disciplines and typically use different style guides such that we are "fluent" in different conventions for citations, capitalization of titles, and so forth.

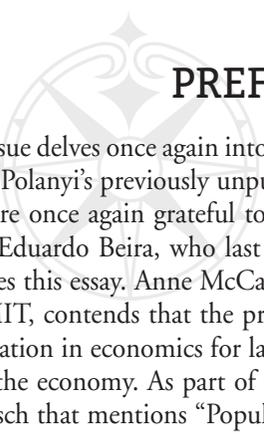
- Our preference is for Chicago's parenthetical/reference style in which citations are given in the text as (last name of author year, page number), combined with bibliographical information at the end of the article.
- Endnotes should be used sparingly and be placed before the reference section.
- To the extent that our software allows, we will, however, accept other styles (e.g., APA or MLA) so long as the author is consistent and careful in following it. The main point, of course, is to give the reader enough information to locate and engage your sources.
- We do encourage one exception to this practice: Polanyi's major works may be cited parenthetically. For example, Polanyi argues that (*TD*, 56). Full bibliographical information should still be supplied in the references section since many of us may work with different editions of his works. If you take this option, please use the following abbreviations (note that abbreviations are italicized):

<i>CF</i>	<i>Contempt of Freedom</i>	<i>SFS</i>	<i>Science, Faith, and Society</i>
<i>KB</i>	<i>Knowing and Being</i>	<i>SM</i>	<i>Study of Man</i>
<i>LL</i>	<i>Logic of Liberty</i>	<i>STSR</i>	<i>Scientific Thought and Social Reality</i>
<i>M</i>	<i>Meaning</i>		
<i>PK</i>	<i>Personal Knowledge</i>	<i>TD</i>	<i>Tacit Dimension</i>
<i>SEP</i>	<i>Society, Economics, and Philosophy</i>		

The Polanyi Society gratefully acknowledges the support of Mercer University, Macon, GA, for the mailing of *Tradition & Discovery*.

Tradition & Discovery is prepared for printing by Faithlab in Macon, GA.

Tradition & Discovery is indexed selectively in *The Philosopher's Index* and *Religious and Theological Abstracts* and is included in the EBSCO online database of academic and research journals. *Tradition & Discovery* is listed in the Directory of Open Access Journals and is also available online at www.polanyisociety.org.



PREFACE

Most of this issue delves once again into Polanyi's economic ideas, this time revolving around one of Polanyi's previously unpublished essays, "On Popular Education in Economics." We are once again grateful to John Polanyi for giving us permission to publish the essay. Eduardo Beira, who last year wrote a piece on Polanyi's "economics film," introduces this essay. Anne McCants, an expert on European economic and social history at MIT, contends that the present is a good time to heed Polanyi's call for providing education in economics for laypeople, with a special focus on the moral underpinnings of the economy. As part of this discussion we also reprint an essay by the late Harry Prosch that mentions "Popular Education in Economics." These essays put Polanyi's ideas into context and further the discussions we have had in recent issues of *TAD*.

In addition, Jon Fennell explores affinities between the understanding of illumination in Polanyi, Aristotle, and Peirce.

There is much business to note, so please take the time to read News and Notes carefully.

Paul Lewis

NOTES ON CONTRIBUTORS

Eduardo Beira (ebeira@gmail.com) is Senior Research Fellow at IN+ Center for Innovation, Technology and Public Policy, Instituto Superior Técnico (Lisbon) and faculty of MIT Portugal Program. He has published Portuguese translations of four of Polanyi's books, as well as an anthology of texts containing Polanyi's writings on science and technology. He has also edited a book about science and technology policies and Polanyi's thought (both in Portuguese). He also maintains a web page with resources about Polanyi's economics film (<https://google.com/site/ebeira.pol1b>).

Jon M. Fennell (jfennell@hillsdale.edu) is Professor of Education and Dean of Social Sciences at Hillsdale College. He is the author of many articles including numerous studies on Michael Polanyi and essays on figures ranging from Rousseau to Rorty and Leo Strauss to Harry Jaffa. The primary focus of his work is the intellectual space constituted by the overlap of philosophy, politics, and education.

Anne McCants (amccants@mit.edu) is a Margaret MacVicar Faculty Fellow, the Director of the Concourse Freshmen Learning Community, and Faculty in Residence at MIT's Burton Conner House. Her teaching is focused in the areas of European economic and social history, world history, and social science research methods. She is the author of *Civic Charity in a Golden Age: Orphan Care in Early Modern Amsterdam* (1997) and numerous articles. She also serves as the editor of the journal, *Social Science History*.

Harry Prosch (1917-2005) became interested in Polanyi's work while earning AB, AM, and PhD degrees at the University of Chicago. He collaborated with Polanyi on *Meaning* and wrote *Michael Polanyi: A Critical Exposition* (1986). Prosch's life and work were featured in the February 2005 issue of *Tradition & Discovery* (32:2).



NEWS AND NOTES

Matt Crawford Headlines 2016 Annual Meeting of Polanyi Society

San Antonio is the site of two sessions of the annual meeting on Saturday, **November 19**, with additional presentations given on Friday afternoon if the number of accepted papers warrants it. Our featured speaker will be Matt Crawford, the author of the stimulating *Shop Class and Soul Craft* (reviewed in *TAD* 37:1) and *The World Beyond Your Head* (to be reviewed in the next issue of *TAD*).

Proposals for papers are especially invited on the following topics:

- Matt Crawford as interpreter of Polanyi and the contemporary cultural situation;
- Updating Polanyi: his thought in contemporary context;
- Creativity and the role of intellectual passions;
- Embodiment: the role of the body in what we know and believe;
- Extended mind: Polanyi in conversation with Andy Clark and similar thinkers;
- Richard Gelwick as interpreter and developer of Polanyian philosophy

The deadline for submission of proposals is **July 10**. If you receive this

issue of *TAD* later than this date or have a late forming idea for a paper, check with Walter Gulick to see if space for another paper can be arranged.

New Dates for Dues Payment and *TAD* Publication

At its November Board meeting, the Polanyi Society set December 31 as the deadline for payment of annual dues (thus December 31, 2016 for a 2017 subscription). The numbering of future issues of *TAD* will also shift to be on an annual basis. Consequently the current volume, 42, which began in October, 2015, will have 4 issues. Volume 43 will as usual have 3 issues--in February, July and October 2017.

In addition, the date that dues need to be paid in order to keep print copies coming to your mailbox now appears on mailing labels.

Back Issues of *TAD* Now Available for Purchase

A limited number of back issues of *TAD* are available for purchase as long as supplies last. The cost for a copy of issues up to and including Vol. 41:3 is \$5.00. A copy of issues from 41:1 and beyond is \$7.00. All prices include shipping and handling.

For issues up to and including Vol. 39:2, contact Phil Mullins (mullins@missouriwestern.edu). For issues from 39:3 to the present, contact Paul Lewis (lewis_pa@mercer.edu).

Recent Work of Interest

Jon Fennell presented “Polanyi and the Secular Age: The Promise of Broudy’s ‘Allusionary Store’” in the opening plenary of the Philosophy of Education Society in Toronto on Friday, March 17, 2016.

Walter Gulick has been invited to give a lecture in the Richard Gelwick Speaker Series at the University of Houston’s Hobby Center for Public Policy. For background on the speaker series, see <http://www.uh.edu/class/hcpp/civitas/speaker-series/richard-gelwick/>

Aaron Milavec has published *What Jesus Would Say to a Lesbian Couple*.

Mary Jo Nye has provided a new forward for the recent reprint of *Personal Knowledge* by University of Chicago Press. The book is available on Kindle and in paperback.

The October 2015 issue of *Appraisal* contains the following articles:

- Thomas O. Buford, “What Can Personalism Contribute to Global Bioethics?”
- Richard Prust, “Bonhoeffer’s Problem with the Past: Personal and Historical Identity in Act and Being.”
- Paul E. Wilson, “Between Berlin and Birmingham (AL): A Comparison of Resistance in the Lives of Dietrich Bonhoeffer and Martin Luther King Jr.”

- Russell G. Moses, “Blood Redemption in this Life: James Farmer Sr. on the Duty to Inspire Hope.”
- J. Edward Hackett, “Spiritual Living and Integral Personalism: A Synthesis of James and Scheler.”
- Benjamin Bâcle, “The Accidental Personalist: Samuel Taylor Coleridge and the Benefits of Failure.”

The latest issue of *Polanyiana* contains the following articles (which can be accessed at <http://www.polanyi.bme.hu/periodical/period.php?n=2014-1&d=2014-1&p=47>):

- Dániel Paksi, “The Concept of Boundary Conditions.”
- Mihály Szívós, “A Practice-Oriented Classification of Tacit Knowledge for the Research into Creativity and Innovation.”
- Mihály Szívós, “Acoustic Tacit Knowledge: Reconsidering and Enlarging the Epistemological Part of the Theory of Tacit Knowledge.”
- Tihámér Margitay and Zsolt Ziegler, “Alternative Possibilities, Self-Determination, and Responsibility.”
- Gábor István Bíró, “Some Notes on the Early Economic Thought of Michael Polanyi.”
- Michael Polanyi, “Notes on a Film.”
- _____. “British Crisis (1947-?).”
- _____. “First and Second Lectures.”

The **British Personalist Forum** held a conference on “Philosophies of the Person: New Horizons and Perspectives” at York St. John’s University June 21-23, 2015.

Polanyi Society Board Meeting

November 20, 2015

7:00 p.m., Hilton Downtown,
Atlanta, GA

Members Present: Gus Breytspraak, Jon Fennell, Andrew Grosso, Marty Moleski, Phil Mullins, David Nikkel, David Rutledge, Diane Yeager.

Guests: Walt Gulick, Bob Hyatt, Paul Lewis, Wally Mead, Esther Meek, Eric Rustad, Stan Scott.

President David Rutledge called the meeting to order at 7:07 p.m.

Phil Mullins moved and Diane Yeager seconded the following: On behalf of the Board of Directors, David Rutledge, President of the Polanyi Society, shall write a letter of thanks to Wayne Glasgow, Vice Provost and Keith Howard, Interim Dean of Mercer's College of Liberal Arts, (with a copy to Christianity Chairperson Richard F. Wilson) of Mercer University, thanking Mercer for the support provided for *Tradition & Discovery: The Polanyi Society Journal*, which Paul Lewis edits. Note that we appreciate both the postage subsidy and the efficient mailing process provided by Nancy Stubbs and staff in the Roberts Department of Christianity. Passed unanimously.

The minutes of the 2014 meeting in San Diego passed unanimously.

Treasurer's Report: Phil Mullins reported for Charles Lowney. David Nikkel moved and Andrew Grosso seconded changing the membership dues deadline to December 31, 2016. Passed unanimously. Proposal that there be a Membership Secretary to coordinate the dues process.

Passed unanimously. Proposal to allocate \$10,000 for investment by the Endowment Committee. Passed 5-1.

Nominating Committee: Proposal that Esther Meek be accepted for a term on the Board of Directors commencing in 2016. Passed unanimously. Proposal that Charles Lowney be accepted for a third term as Treasurer. Passed unanimously.

Tradition & Discovery: Paul Lewis proposed that Faithlab be contracted for a second year. Passed unanimously. Possibilities of tiered levels of membership or increasing the dues to \$50 were discussed. No action taken.

Summer Conference: Andrew Grosso reported on the program line-up and logistics. No deposit to Nashotah House will be required from the Society.

Program Committee: Walt Gulick will discuss topics for next year's sessions at the Society Business Meeting.

Travel Fund: Wally Mead reported that there were two applicants for this year's conference; both were helped.

Website: There were no questions on Phil Mullins written report.

Potest Conference: David Rutledge reported for Dale Cannon that the conference finished in the black financially, even with the cost of the statue and artwork donated to the Yale Divinity School. No money was required from the Society.

Gelwick Award: Phil Mullins moved and Andrew Grosso seconded that the award go to a young scholar to attend the June, 2016, Conference. Passed unanimously.

The time for the 2016 Board Meeting was discussed. No action was taken to change the time from Friday evening.

It was noted that many graduate students were involved in the opening session this year.

David Rutledge declared the meeting adjourned at 8:50 p.m.

Respectfully submitted,
David Nikkel, Secretary

[**Editor's note:** Board Minutes are also available at www.polanyisociety.org/bdofdirectors.htm.]

2014-2015 Treasurer's Report

The Polanyi Society revenue for the 2014-2015 fiscal year (ending 8/31/15) was \$9,496.24, comprised of \$4,171.60 in dues, subscriptions and royalties; \$5,579.64 in donations (\$3,030 to the Endowment Fund, \$1,494.64 to general expenses, \$450 to the Richard Gelwick Fund). Most donations were attributed to the rounding up of dues by members. We had about 100 paying members and there were about 50 donations from 31 different people. Over \$500 in donations came from members of the Polanyi family. The ending balance for the Endowment Fund, including the value of donated stock, was about \$22,000. The beginning balance of the William T. Scott Travel Fund was \$1,283.97. Donations amounted to \$605 and three travel grants awarded totaled \$1,150. The ending balance was \$738.97.

Expenditures amounted to \$4,728 of which \$1,658.60 went to the production of TAD, \$179.64 to website maintenance,

\$110.11 to bank and Paypal fees, and \$2,780 to meeting and honoraria.

Thanks to generous donors, conferences that nearly paid for themselves, and conservative spending policies, over the years we accumulated an excess in the General Funds account. I recommended that we allot approximately \$10,000 from the General Funds into the Endowment Fund and that we reactivate an Endowment Advisory Committee in order to seek better returns for the Society to help insure the organization's long-term sustainability.

We closed the books on the William Poteat Conference in November, 2014. Donations amounted to \$4,810, which provided the deposit and balance to Yale Conference Services, insurance, and video. There were many who donated more than once, especially to raise the remaining balance. Betty Eidener spearheaded the effort that raised \$27,000 in donations toward the Moustakas sculpture and artwork donated to Yale in honor of Bill Poteat.

Thank you to all Polanyi Society members. Your dues and donations make it possible to keep the dialogue on personal knowledge, tacit knowing, and emergent being going strong in *Tradition & Discovery* and in Polanyi Society meetings and conferences.

A more detailed report is available at www.polanyisociety.org/bdofdirectors.htm.

Charles Lowney
Treasurer

“ON POPULAR EDUCATION IN ECONOMICS”: ANOTHER FOUNDATIONAL TEXT OF MICHAEL POLANYI’S THOUGHT



Eduardo Beira¹

Keywords: *laissez faire*, utilitarian economics, traditional liberalism, communism, fascism, Michael Polanyi’s “economic film,” Keynes, progress by persuasion

ABSTRACT

This essay introduces Michael Polanyi’s 1937 lecture “Popular Education in Economics” and its context. This lecture is an important document sketching Polanyi’s initial critique of traditional liberalism and its alternatives (communism and fascism). Polanyi emphasizes the importance of mass enlightenment by education in economics in order to revise laissez faire economics “by some other means than civil war,” because until recently “man was not intelligent enough to understand the economic system.” Polanyi calls for “progress by persuasion” in order to empower man to master and direct the economic life. For the first time, Polanyi refers to the work of Keynes as an opportunity to avoid the mistakes of communism while allowing a reframing of liberal ideas.

Introduction: Polanyi in Manchester, 1937

The year 1937 should have been a busy year for Michael Polanyi. He was 46 years old, a time when he was energetic, intellectually sharp, and successful as a scientist doing research in chemistry, but tormented by his intellectual ambitions and the dramas in his country and family. Chemistry was becoming a world too small for his concerns and ambitions. He was committed to applying his skills, learned and improved during the previous twenty years in the frontier of the world in science, in order to understand more than chemistry. He also aspired to understand his world and its tragic destiny.

His mind was full of ideas about a better understanding of the world—the world of economics and politics, but also the world of science itself. From 1933 to 1936, his first three years in Manchester after leaving Berlin, Polanyi had more than fifty publications, all but three in the area of chemistry.² But now an important dimension of his intellectual concerns was not about his research in chemistry, but about investigating economics and public policy, or the economic foundations of political agency.

In June of the previous year (1936), Polanyi had delivered a lecture to the Association for Education in Citizenship in Manchester about the “visual presentation of social matters.”³ I argued in an earlier issue of *TAD* that this was a foundational presentation for Polanyi’s thought, one that informed his next steps and inspired his efforts to produce a film on economics as an experimental prototype of a much more ambitious program of enlightenment using new media (films) to help both mass and specialized education.⁴ This seems to have been part of a turning point in his career, although his concerns had roots in earlier years. The working group and the meetings promoted by Polanyi in Berlin in 1930 brought natural scientists and economists together seems to have been the ignition point of these new paths.⁵

In February of 1937, Polanyi delivered another lecture at another conference, but not in the areas of chemistry or science. Scott and Moleski (2005) say this “extensive lecture” was delivered to the Manchester Political Society.⁶ This lecture follows up and complements his 1936 lecture (“Visual Presentation on Social Matters”), delivered less than one year before. The first section (two pages in the original) was not actually read during his presentation to the Political Society.⁷ We can understand this introductory section as a challenge to the political positions of some scholars and a call for political action by the academy: “The destruction of freedom of thought has been accomplished without much resistance on the part of those whose profession is science and learning” (PE 18). Polanyi affirmed and then proposed that each member of the society present his or her “personal approach to politics.” Polanyi considered this to be “a proper test” for the society, and then he moved into his own presentation which was a reframing of liberal policies.

We do not know very much about the Manchester Political Society, which apparently included scholars, but we can imagine how challenging and disturbing these statements by Polanyi could have been. Maybe he had doubts about the sincerity of some of the members of the society; maybe he was considering previous political positions and omissions by some of them. We do not know, but in the end it seems Polanyi used his good diplomatic sense and took the option not to read these two pages, possibly to avoid potential conflict. Perhaps he was not very sure the society could survive such polemics and declined to test the water.

Polanyi lectured again, one month later (March 1937), this time discussing the lessons of the Russian Revolution. He later wrote a proposal for “a new research section”

in the University, not in chemistry but in economics and public policy.⁸ In December of the same year, he addressed the Faculty Senate with his concerns about the use of instructional films for education and the challenges and opportunities that it raised for the University.⁹

Meanwhile, the actual production of Polanyi's film about economics began. It was during Easter of 1937 that Polanyi finished the outline of the film manuscript—immediately after the three lectures. By June, the plans for the film were ready and the initial funding was available. It was during the second half of this year (August 1937) that he started working with the film producers.¹⁰

During 1937, most of Polanyi's new work was not in chemistry perhaps for the first time in his life. Over the next several years, the number of his papers on topics in chemistry dropped significantly, and his writing (published and unpublished) in other areas began to take ascendancy.

The Lecture: “Revise Utilitarian Economics By Some Other Means Than Civil War”

Phillip Chantler apparently gave a response after Polanyi's presentation to the Political Society.¹¹ Chantler was an economist in the Research Section of the Department of Economics and Commerce at the University of Manchester.¹² Chantler concludes the first part of his commentary with a good summary of Polanyi's thesis in the lecture:

A liberal system exists here, based on “free acquisitiveness.” Revolt against the system in other countries has resulted in *dictatorships*. Hence to avoid dictatorship “we must devise some means other than civil war to revise utilitarian economics...to make the community conscious of its collective purpose,” *but* progress by persuasion requires intelligence. Therefore requires an “enlightened public”. Therefore Polanyi advocates explaining the new economic ideas (Keynes, Roosevelt) in simple language: after popular exposition, the ideas would “serve as guidance for the reorganization of popular social forces.” Hence the political club should be a study group in “applied economics”—a first step towards popular education in economics (RPC 25:9).

In the lecture, Polanyi argues again that his intellectual approach to “progress by persuasion” bears on his conviction that social consciousness is lacking, but it is a “necessary condition of civilized development” and this is “based on the popular understanding of economic matters.” He goes on to say, “my approach to politics would be to elaborate the new economic ideas and at the same time to simplify their outlines

so as to make them comprehensible to the intelligent layman” (PE 23). So, “putting it bluntly, this Society would devote itself to the study of economics as an experiment to create a nucleus of educated people who would acquire an understanding of these matters” (PE 23). If the Society wishes “to avoid dictatorship we must revise utilitarian economics by some other means than civil war and must, in particular, find some means to make the community conscious of its collective purpose by means other than dictatorial regimentation” (PE 22).

Polanyi takes economics as the lock to be opened for political enlightenment through popular education: an “enlightened public would have...to direct its economic life” (PE 23). And he had found one helpful key: Keynes “has brought an understanding of the trade cycle which seems also to lead up to a proper definition of public responsibility in an industrial system”(PE 23).

Polanyi’s Critique of the Liberal *Laissez-Faire* and the Totalitarian Alternatives

In his lecture to the Political Society, Polanyi develops two critiques: a critique of traditional liberalism and a critique of the alternatives developed in reaction to the failure of traditional liberalism, i.e., totalitarian regimes like communism and fascism.

His critique of traditional liberalism is quite important because at this stage Polanyi was already committing himself to restore and save the liberal ideas in a modern society. He identifies four fundamental inabilities of “this gravely deficient philosophy” by which he means the utilitarian economic theory, or the *laissez faire* of traditional liberalism (PE 20-21): (1) inability to secure justice in distribution of income, (2) inability to define the limits of buying and selling, (3) inability to grasp the trade cycle, and (4) inability to make the community conscious of and responsible for its economic life. But Polanyi thinks that these four inabilities can be managed by just rewards for people, a social role for government, and full employment policies which together provide “work and [an opportunity for all to] live an educated healthy life” (PE 20). The liberal framework could be saved—and liberal capitalism could have a future (if people better understood it).

Polanyi’s criticism of traditional liberalism is not far from that which Keynes articulated during the previous decade, and it thus is reasonable to associate Polanyi and Keynes. In 1929, eight years before this lecture, the liberal Keynes had written about his new “heresy” saying, “I abandon *laissez faire*...it entrusted the public weal to private enterprise unchecked and unaided.”¹³ Keynes had been leading an intellectual assault on *laissez faire* doctrine and three years earlier had published a booklet, “The End of *Laissez Faire*,” in which he concluded that “improvements in the technique of modern capitalism by the agency of collective action” are possible and that “capitalism, wisely managed, can probably be made more efficient for attaining economic ends than any

alternative system yet in sight, but that in itself is in many ways extremely objectionable.”¹⁴ This was later refined in his *The General Theory of Employment, Interest and Money*, published in 1936, in which Polanyi also found sound theoretical foundations to manage capitalist economics: “at last we have before us a fundamental criticism of liberal economics which avoids the mistakes of communism,” Polanyi concluded in “On Popular Education in Economics.”¹⁵

Polanyi’s critique of communism is based on two (intellectual) errors that communism commits: (a) absence of competition in the economy, without the guidance of competitive prices, wages, and profits, and (b) the “disastrous theory of class war.” For Polanyi, modern fascism is akin to earlier communist ideas but with a different kind of class war, which has the same structure. But he does not think that the serious errors of communism (and fascism) can be addressed. So saving the “principles of free acquisitiveness” (PE 23) in democratic countries requires a revision of utilitarian economics (liberalism) in order to avoid dictatorship.

A fundamental idea in this text is that “intellectual errors” in “understanding the economic system” and “mastering the economic structure” are the sources of the crisis in the current period (between the wars). It is not differences in values in different societies—a provocative thought for those fighting communism because they believed it was destructive and hostile to Western values.

This is a lecture claiming an intellectual response to the crisis (and coming war), arguing that the best intellectual response is to be made by promoting a better understanding of economics by the masses, one empowering people to understand economic and trade cycles vagaries, and to adopt a new framework for the liberal cause.

From “Visual Representation of Social Matters” to “Popular Education” and the Historical Society Lecture.

Both “Visual Presentation of Social Matters” and “On Popular Education in Economics” are lectures that argue for a program of enlightenment of popular masses through education in the basics of economics, what Polanyi calls “progress by persuasion” in “On Popular Education in Economics.” The first lecture deals more with matters concerned with “how to do it” (new powerful visualization tools to map macro-economic changes), while the second lecture deals more with “why to do it.”

In “Visual Presentation of Social Matters” Polanyi begins to articulate his criticism of *laissez faire* liberal politics (also designated utilitarian policies) and the dangers of an invisible hand without social purpose. In “On Popular Education in Economics,” he details and grounds that criticism. In “Visual Presentation of Social Matters,” Keynes is not cited, but in “On Popular Education in Economics” he is invoked in order to open the door to a social drive of the economic system, according to collective values. In both lectures, the ideas about the film under construction appear and are justified. In

“On Popular Education in Economics,” Polanyi says “I have put myself to some extent through the experiment which I suggested and I find that it gives rise to all sorts of ideas about the possibilities of a popular education in economics” (PE 24).

One month later, in March of 1937, Polanyi delivered his lecture to the Historical Society in Manchester about the lessons from twenty years of the Russian revolution.¹⁶ In this lecture, his concerns about the liberal economic system are again expressed. Polanyi is afraid that if the inadequacies of the liberal system are not sorted out, then a new wave of unemployment will come with the next slump and it may well create the conditions for its own destruction.

From his analysis of the vicissitudes of the Russian revolution, Polanyi extracts three conclusions, two economic and one political: (1) “economic life has to be based on competition,” (2) “has to be guided by prices and profits, the effects of which are controlled, to a greater or lesser extent, by the action of the state,” and (3) the “working class can not establish its rule...by merely wiping out a handful of rich capitalists.” But he found something inspiring in the Russian experience: a “social consciousness in economic life...a great purpose dominating the economic life of a community” that “gives a meaning to the life of people...a new spirit which demands that economic life should become socially purposeful.” This third lecture is a clear complement of the “Popular Education in Economics,” since it is a continuation of the criticism of traditional liberalism.

The Origins of Polanyi’s Liberalism: Between and With Keynes and Hayek

“On Popular Education in Economics” sheds some light on the development of Polanyi’s thought during the late thirties. Three years later, Polanyi wrote a short note consolidating his working model for “the liberal ideal.”¹⁷ In this note, dated 1940, Polanyi begins by stating “the liberal ideal” this way: “completely independent parcels of resources captained by individual owners and used in bargain for distinctly personal advantage.” One can easily recognize the possible influence of Hayek’s account of economic order in this statement; one can also see an early formulation of some aspects of polycentric interactions and tasks that Polanyi later theorized.¹⁸ So Polanyi developed his thought about liberal capitalism under the influence of both Keynes (at the macro level) and perhaps Hayek (at the micro level).¹⁹

Discussion of liberal thought in Polanyi has already produced a long thread of works, but Polanyi’s unpublished papers from the thirties can add some additional light about his process of thought; this material has not been much considered until now. For instance, Jacobs and Mullins (2008) offer a discussion of Polanyi’s liberal ideas from 1941 to 1951, but they do not deal with the origins and the construction of his liberal framework during the thirties. Allen’s book (1998) about liberal thought in Hayek and

Polanyi (and others) also concentrates on available primary sources available after 1946 (the year of publication of *Science, Faith and Society*). Tibor Frank (2010) discussed the Budapest roots of Michael Polanyi's liberalism, and does not treat these later materials; Paul Nagy (1996) also does not deal with Polanyi's thought in the thirties.

Interestingly, Harry Prosch recognized in his 1991 Kent State Conference paper, "Polanyi's Economics and the New Start in Europe" (included in this issue of *TAD*), the long term importance of "On Popular Education in Economics" in the construction of Polanyi's framework of the "free society," in which "some intervention by the State in the market is required both to perform some economic tasks and to care for people in accordance with our traditional values of humaneness and justice" (Prosch 1997, 302).²⁰ Prosch perhaps provides the best account of how Polanyi's view of economics can be integrated with Polanyi's broader philosophical framework.²¹ He shows quite well how economic matters treated in the writing of the thirties and forties are an integral part of the comprehensive whole.

Like the preceding "Visual Representation of Social Matters," "On Popular Education in Economics" is another foundational text reflecting the development of Michael Polanyi's thought; the heterodox education of this philosopher was under way.

The Film About Money (and Economics)

As I have noted, Polanyi confesses in the "On Popular Education in Economics" that he has been experimenting with ideas for popular education: "I might say that I have put myself to some extent through the experiment which I suggest and I find that it gives rise to all sorts of ideas about the possibilities of a popular education in economics" (PE 23). This is a direct reference to his on-going work on the production of "the economic film."²²

One year later, on 9 March 1938, the film experiment was first shown in Manchester. The final version was released on 25 April 1940 in London; the film is a tool designed to empower the masses with economic knowledge in order to avoid the fallacies of totalitarian doctrines. A good part of the theoretical foundations for Polanyi's "experiment" with new media had been defined in this lecture from February of 1937.

ENDNOTES

¹Thanks to Phil Mullins for his advice and help in the editing of this paper. Since the previously unpublished lecture "On Popular Education in Economics" is included in this issue of *TAD*, quotations from the lecture use the pagination found in this issue. Some comments below discuss archival copies of "On Popular Education in Economics." This material is part of the Papers of Michael Polanyi held in the Department of Special Collection of the Regenstein Library of the University of Chicago. Citations are foreshortened to RPC (Regenstein Polanyi Collection) followed by the archival box number and folder number in the box.

²According to the Scott and Moleski (2005) bibliography of works by Michael Polanyi (pp. 327-350), the three papers outside chemistry were “USSR Economics” (1935), “The Value of the Inexact,” and “The Struggle Between Truth and Propaganda” (both in 1936).

³Published in 2015 in *Tradition and Discovery: The Polanyi Society Periodical*, 41 (2): 13-24.

⁴See Beira (2014).

⁵Polanyi “hoped that solid quantitative data could be obtained on investment, income, and productivity in various countries, in contrast to the vagueness of the daily press” (Scott and Moleski, 2005, p.121). Nineteen years later Polanyi wrote in his diary that “the *Arbeitsgemeinschaft*...has bore all kinds of fruit” (RPC 41:1).

⁶Scott and Moleski (2005) offer a 24 line summary of the lecture focusing on the political point of view (see p. 166, note 104). I found no reference to this meeting in *The Manchester Guardian* (see Beira 2012a).

⁷There are two versions of the document archived in RPC 25:9. One, “On popular education in economics / by M. Polanyi” is 12 typed pages and handwritten with a pen by Polanyi. On the top of the front page, is “about February 1937.” Another version has two additional pages to begin the document, titled in red ink “POPULAR EDUCATION IN ECONOMICS” 22.II.1937. It is followed by a red typed comment immediately after the title: “pages 1 and 1a not included in the lecture to the Society.” The following page begins with “POLITICAL SOCIETY LECTURE by M. Polanyi.” in black type. The first page is stamped in the top right corner: ECONOMICS FILE / NUMBER 10 (10 is handwritten). These first two pages are a cover to a careful, hand-annotated copy of the previous twelve-page document, edited by Polanyi himself. The full text of the two-page cover and the twelve-page text hand edited by Polanyi, is the version published in this issue of *TAD*. The red type at the top of the two-page cover document must be significant. There are very few typed documents in the Polanyi Papers from the thirties with red type. It looks like Polanyi wanted to make an important note for himself in his records.

⁸Some of the ideas of the Berlin *Arbeitsgemeinschaft* (working group) in 1929 reappear in the 1937 memo for a new research section at the University of Manchester, with an extension about visualization methods for economic ideas, including by film. A transcript of the memo is available in Beira (2013).

⁹In this speech to the Senate of Manchester University, Polanyi suggests that “it seems as if all studies of facts or concepts which exist or have existed in space and time will try to express themselves in the film, and that all subjects will be found to contain such elements.” He concludes that “the raising and allocation of funds, the collaboration with outside experts and the distribution of the finished films all present problems for the handling of which new guiding considerations and new machinery seems required” (RPC 43:4). A transcript of the speech is available in Beira (2015a).

¹⁰See the letter from Polanyi to Charles V. Sale, 4 September 1937 (available in RPC 3:9; transcript in Beira 2012b). Sale has been one of contributors of the first round of private financing for the film. See also the letter from Polanyi to Toni Stolper, from 3 September (also in RPC 3:9).

¹¹Next to this Polanyi manuscript, in RPC 25:9, there is an undated five-page typed document by Philip Chantler, titled “Critique of ‘On popular education in Economics’ by M. Polanyi.” It seems likely this document was a draft used by Chantler to comment on Polanyi’s paper in the meeting of the Political Society, and that Chantler himself was a member of the Society.

¹²He worked with Professor John Jewkes in the Economic Research Section of the Department of Economics. He also had a teaching post (Tribe, 2002). P. Chantler published several papers in *The Manchester School* journal from 1933 to 1940. He also wrote a book titled *The British Gas Industry*, published by Manchester University Press in 1938.

¹³Cited by Wapshott (2011), p. 34. The original article was published in the *The Nation and Athenaeum*.

¹⁴Keynes (1926). The publication was based on the Sidney Ball Lecture given by Keynes at Oxford in November 1924 and on a lecture given by him at the University of Berlin in June 1926.

¹⁵Polanyi would later publish *Full Employment and Free Trade* in 1945, a book in which, while claiming the influence of Keynes, Polanyi argues for policies for driving or managing the capitalist economy that are different from those suggested by Keynes. Polanyi insisted on monetary policies to control the amount of money in circulation as the key variable to manage the trade cycle and the economy.

¹⁶The manuscript of this lecture is available in RPC 25:10. A transcript is available in Beira (2015b). This lecture included some statistical material from previous papers by Polanyi about USSR economics.

¹⁷Unpublished note, RPC 26:3.

¹⁸See Polanyi (1951), especially chapters 8 and 9.

¹⁹The arguments and the polemic about the authorship of the “spontaneous order” idea between Polanyi and Hayek continues. See, for instance, Bladel (2005). Probably both influenced each other in the construction of the idea. However, the expression was not so new, as Jacobs and Mullins (2016) note in their recent paper about the correspondence between Polanyi and Hayek.

²⁰See also Chapter 13 (“The Free Society”) of Prosch’s book (1986) about Michael Polanyi, where he also recognizes the importance of “Visual Representation of Social Matters” as well as “Popular Education in Economics.”

²¹In his 1991 paper (published in the 1997 Proceedings volume), Prosch makes something like a prophecy: “Some people have feared that shaking off the yoke of communism with its central planning in Europe might result in an all-out embrace of the old Utilitarian principles of complete trust in the market to do everything, a rabid libertarianism which a von Hayek, von Mises, or Milton Friedman seem to many to espouse.” Today, twenty-five years after the end of the cold war, a good deal of European neo-liberal and austerity policies, as well as the political regimes in eastern European countries, seem to confirm some of Prosch’s insight.

²²A digitized version of the film is available in a webpage (<https://sites.google.com/site/ebeira/pol1b>) together with a collection of the resources about the film (including my Working Papers cited in the reference section). The film can now be viewed with subtitles in several languages. The page is also accessible via a link in the collection of primary Polanyi materials of the Polanyi Society website (polanyisociety.org).

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ON POPULAR EDUCATION IN ECONOMICS



Michael Polanyi

Keywords: Michael Polanyi, modern political and economic history, economics education

ABSTRACT

“On Popular Education in Economics,” an unpublished lecture that Michael Polanyi delivered in late February of 1937 to the Manchester Political Society, succinctly presents Polanyi’s understanding of recent political and economic history, including the rise of communist and fascist governments. Polanyi argues that new economic ideas need to be better understood by the intelligent layman and that economics education on a wide scale can address the social and political problems of the modern world.

It seems to me that the formation of the Political Society expresses the urge to undertake a greater measure of social responsibility on the part of academic people. In the dictatorial countries the privilege of detached study has been abolished. Thought is there made responsible to the state and is expected to promote its aims. The destruction of freedom of thought has been accomplished without much resistance on the part of those whose profession is science and learning.

The incapacity of the learned professions to defend their privileges seems to be due to the very perfection to which the principle of detachment had been carried. It was forgotten that freedom of thought was originally attained by political struggle and that it had to be defended politically. The formation of this Political Society here seems to show that we at the universities are prepared to give up some of our political detachment in order to meet the danger of political subjection.

If this is true, that the Society arises from an urge to assume more social responsibility, how can an urge, so undefined, be integrated into work? It seems to me that the first thing to do is to find out what ideas are brought into this pool, to learn to know each other and our various aims. I suggest, therefore, that each of us should give a talk on his personal approach to politics. It is possible that in this way we will, in the end, find some common aims for which, this Society will stand. And, if we find no such common aims we will have, at least, put our Society to a proper test.¹

My approach to politics is more intellectual than emotional. Political aims arise from an interpretation of social life and such interpretations are formed by the joint work of taste and understanding. My justification for an intellectual approach to the present crisis lies in my belief that this crisis has not primarily arisen from conflicting tastes, in other words, that it is not primarily a crisis of values. Guns and butter might today represent opposing tastes meaning a preference of violence to reason. But according to the analysis which I will put before you this is only an expression of intellectual despair and not a primary passion for unreason. Nor do I believe that the passion for preferring a manager to an owner which rules the USSR to-day has caused the revolution there. Indeed, there is plenty of evidence that the original intentions of the revolution were of a different nature.

Indeed, in other things than politics there is no sign of great divergence in the tastes of the peoples of the Western world. For example, modern dances, motor-cars, birth control and a hundred other new customs are all spreading regardless of frontiers, and producing everywhere the same changes. Similarly, I believe, the era of progress which has led to the present crisis was actuated originally everywhere by the same motives which were the demands for social justice and freedom of thought and the desire for increased prosperity for all; indeed I think that those tastes still prevail even where they are suppressed.

Why then, if the fundamental impulses are common to all the peoples of Europe, has the continent been split up between Communist, Fascist and Democratic countries? The answer, I believe, is that the original impulses were misguided into various directions by intellectual errors. Man was not intelligent enough to understand the economic system which he brought forth in the 19th century. In consequence, when he tried to apply his endeavours of justice, freedom and prosperity to economic life, the results were to a great extent futile or ruinous. The present divisions of the world represent in this view the various endings of an inadequate effort of common human motives trying to master the economic structure.

I propose to examine in this light the development which led up to the present crisis and to derive therefrom the task which I envisage for the future.

Modern economic thought, started by Adam Smith was based on the theory of the free market. It was incorporated into a social philosophy by the utilitarians. The

utilitarians recognized that the price of labor, capital and commodities provided a just reward to each of these factors of production in an ideally free market and that they guided them into a combination of maximum efficiency. This was a great discovery which inspired public life for a long time and guided the struggle against mercantilism and against the restrictions of economic life by the remnants of feudalism.

The utilitarians, however, made the following great mistakes:

1. They failed to see that the just reward of the factors of production did not lead to a just reward of the people disposing of these factors. Their philosophy never produced an idea as to how the just reward of the various people should be assessed.
2. The utilitarians overestimated the idea of the free market. They thought it to be applicable to all human relationships and, therefore, opposed all legislation regulating labour conditions and objected to free services by the community, as for example, free education. They failed to produce an idea as to the limits to which human affairs should be regulated by buying and selling.
3. The utilitarian economic theory gave no reasonable account of the trade cycle.² It left the unemployed in the depression without even an intellectual consolation and objected to any action to improve their lot.
4. The general weakness of utilitarianism, which includes the above particular failures, is this: that its philosophy makes self-seeking the supreme principle in economic life and assumes that people are happy if their blind acquisitiveness is transformed into a maximum efficiency. In fact, blind acquisitiveness is repugnant to the social instincts of man. If he co-operates with a community he wants to be conscious of a common purpose. Accordingly, he revolts against the idea that the community should refuse responsibility for giving its citizens opportunity to work and live an educated healthy life.

The utilitarian philosophy, later named economic liberalism, became the principal conservative force in the second half of the 19th century, and though it had to give up many of its claims, it still prevails to-day in the democratic countries. The four weaknesses of this philosophy[:]

1. inability to secure justice in distribution of income,
2. inability to define the limits of buying and selling,
3. inability to grasp the trade cycle, and

4. inability to make the community conscious of and responsible for its economic life have made its position critical. We all feel the latent revolt against an economic life based on this gravely deficient philosophy and more or less expect that the revolt might break out as early as at the next slump.

The revolt against economic liberalism is led to-day by two political forces, Communism and Fascism. The meaning of Fascism can be understood only by an analysis of the much older Communist movement. Communism, arising in the middle of the 19th century, attacked utilitarianism at all the weak points to which I have referred. It demanded that exploitation, marketing, the trade cycle should be wiped out and the acquisitive system replaced by a community consciously working for its common needs.

The appeal was powerful but the results were disastrous on account of two fundamental errors. The first error was the idea that an industrial economic system producing a great variety of goods by a wide division of labor could be run without the guidance of competitive prices, wages and profits. The nebulous idea that people should produce directly for the needs of consumers instead of making what Marx called, ironically, 'commodity fetishes' for the impersonal wants of the market was altogether impracticable. The second error, more disastrous even in its consequences, was the theory of class war. According to Communism owners form the capitalist class which is becoming a dwindling minority, non-owners form the working class, the huge majority. The majority should take away ownership from the minority and invest it in the state, which would be the end of exploitation, commodity fetishism and trade cycles.

The class theory included all the managerial and technical staff, the civil service and the learned professions in the proletariat and lumped all the peasants, tradesmen and craftsmen with the rich. The effect was to provide the rich with more powerful allies than they ever had before, because the masses of the lower middle class, seeing their ways of making their livelihood attacked had to join the rich against the workers, while the better off employees and professional men did not merge as the theory would have it into the proletariat but kept up their previous association with the rich. This political theory put the working classes, as carriers of Communism, into a disastrously weak position.

Communism and the class war theory were not taken seriously during the 19th century. They merely formed a remote theoretical background of a progressive labour movement. However, in 1917 in a surprise attack in Russia a Communist revolution won victory because the peasants misunderstood its nature and joined it for the sake of dividing up the estates of the big landowners. But the two fundamental errors of Communism soon led to ruinous consequences. The attempt to abolish prices, wages and profits caused a breakdown of economic life which buried under it the major

propositions of Communism. At the same time an opposition of the professional classes and peasants flared up and continued for sixteen years. At the end of this period of civil war the country was pacified on the basis of a compromise which left a considerable measure of ownership to the peasants and introduced prices, profits and greatly unequal wages. The movement has, however, realized one of its important aims: it established the responsibility of the community for the work and welfare of its members. Prices, wages and profits are allowed to operate only subject to the power of the Government to intervene at any time for the purpose of enforcing the collective aims of economic life. At the same time political dictatorship arose firstly as a result of class war, then [was] perpetuated to insure the subjection of economic activity to collective aims.

The victory of the Revolution and its propaganda abroad spread the theory of class war and convinced the world that this was a reality. So class war came after all and the workers, less numerous and less powerfully positioned than those whom they had welded together in opposition to themselves, were easily defeated.

The victorious social forces consolidated their power in the form of Fascism. This form of counter-revolution has incorporated with a few important exceptions, most of the elements of Communism which survive under Stalin. It accepts the responsibility of the state for the work and welfare of the people and seems decided not to tolerate unemployment; moreover, it claims to give a conscious common purpose to economic life. It differs from Stalinism in that the state rests on the old personnel of owners and professional classes and, in particular, confirms the peasants, tradesmen and craftsmen in their old ways of earning their livelihood. It resembles Stalinism in its dictatorial methods by which it stamps out all resistance arising against the subordination of economic life to a common purpose.

To sum up the situation: We have in the democratic countries a liberal economy holding up precariously the principles of free acquisitiveness, while admitting, out of necessity, a steady growth of public responsibility in its midst; and we see in the other countries the results of a revolt against free acquisitiveness culminating in the institution of governmental responsibility for the work and welfare of the citizens. In these countries dictatorships arose originally to consolidate the victory won in class war, and dictatorships are perpetuated for the purpose of directing the work of the community towards a joint task.

If this analysis is right it follows that if we wish to avoid dictatorship we must revise utilitarian economics by some other means than civil war and must, in particular, find some means to make the community conscious of its collective purpose by means other than dictatorial regimentation.

Obviously, progress by persuasion is possible only to the extent to which our intelligence can guide us. A civilised development of social life is, therefore, only possible if it has a fairly complete understanding of economic matters at its command. This

understanding must, of course, become widespread among educated and public-minded people if it is to direct the minds of a democracy.

This necessary condition of civilized development consisting in a correct popular understanding of economic matters would, I believe, be in itself a remedy to the greatest deficiency of our economic system, which lies in its lack of social consciousness. If people understand the work in which they are participating the community becomes conscious of its purpose. The spiritual advantage of dictatorships lies in their enforcement of an idea of economic life. Democracy can satisfy this craving for economic consciousness by creating a popular understanding of economic matters. It is the only way to obtain economic consciousness while preserving freedom of thought.

Furthermore, I submit that intellectual power is readily and almost inevitably converted into political power. I expect that the spreading of adequate views on economic life would release social forces now entangled in futile issues and would direct them towards reasonable aims. I believe that these forces once they are aiming at reasonable things would easily overcome such vested interests of a minority which might oppose them. I believe, in fact, that an enlightened public would have full power to direct its economic life.

Now what are the practical chances for arriving at an adequate understanding of economic matters? It seems to me that the last few years have brought us a good deal nearer to this aim.

The work of Keynes has brought an understanding of the trade cycle which seems also to lead up to a proper definition of public responsibility in an industrial system. At last we have before us a fundamental criticism of liberal economics which avoids the mistakes of Communism.

The policy of Roosevelt shows us a first indication of social action based on a new interpretation of economics. In various other countries, for example, Sweden and Australia, during the last slump governmental policy was also directed by new economic thought. Since then more progress has been achieved in economic theory and it seems increasingly possible to reconsider the main social issues in its light.

So my approach to politics would be to elaborate the new economic ideas and at the same time to simplify their outlines so as to make them comprehensible to the intelligent layman. After that the ideas might be carried further among people and serve as guidance for the reorganization of popular social forces.

Putting it bluntly, if I had my way this Society would devote itself to the study of economics as an experiment to create a nucleus of educated people who would acquire an understanding of these matters. Such an experiment would be a first step towards popular education in economics. It would qualify the Society for the further task of discovering how such popular education on a wide scale might be attempted.

I might say that I have put myself to some extent through the experiment which I suggest and I find that it gives rise to all sorts of ideas about the possibilities of a popular education in economics. I think that this is quite natural because the layman's approach is guided by the same instincts which would arouse the interest of the general public. These instincts are different from those of the professional worker who seeks to make a substantial contribution to the subject and who must, therefore, become overwhelmingly interested in one section of it rather than in its general outline.

History presents many examples of educated people making a new start to amplify their knowledge. The passionate study of the ancient masters in 14th century Italy, the Bible studies of the 16th century in England are perhaps the most important educational events. The foundation of the Royal Institution at the beginning of the 19th century, the study of Marx in the second half of that century are other examples. My suggestion has, indeed, many parallels in the past.

ENDNOTES

¹Keywords, abstract, and endnotes have been added to the original manuscript. However, Polanyi's spelling and punctuation have been preserved throughout this lecture. "On Popular Education in Economics" is in Box 25, Folder 9 of the Papers of Michael Polanyi in the Department of Special Collections, Regenstein Library of the University of Chicago. Thanks go to John Polanyi, literary executor, for permission to publish this speech. The first three paragraphs here seem to have been intended as an introductory comment and challenge to others at what was perhaps the inaugural meeting of the Political Society at which Polanyi delivered his lecture. The paragraphs provide some insight into the context of Polanyi's lecture but are a separate archival document (titled "Political Society Lecture"), also in Box 25, Folder 9. Apparently, this introduction was not actually included in the presentation to the Political Society. A typed note at the top of one copy of this two-page introduction suggests this. That note also gives the date, "February 22, 1937," next to the title "Popular Education in Economics." There is more than one archival copy of "On Popular Education in Economics" and the one marked "January 1937" was likely used for the presentation) since it has some penciled corrections; most of these are minor changes in wording and are incorporated here. There is also in Box 25, Folder 9 an interesting but undated document, which is apparently a several page outline of Polanyi's argument and a critique by Philip Chantler, titled "Critique of 'On Popular Education in Economics' by M. Polanyi." In its final comment, this document suggests Polanyi's speech is interested in serious "discussion, as distinct from propaganda" and is "more sociology than economics." The speech thus perhaps "falls under the study of *politics*, in its wider aspects."

²In what is apparently the original draft of the lecture, Polanyi here used "laissez-faire" rather than "utilitarian economic."

MEASURING PROSPERITY AND PRESERVING FREEDOM: AN ECONOMICS EDUCATION WITH MICHAEL POLANYI



Anne McCants

Keywords: Michael Polanyi, Adam Smith, Thomas Malthus, John Maynard Keynes, moral principles of economics, political economy

ABSTRACT

In a time of heightened economic and political insecurity, sustained prosperity is a reasonable public goal. But it is not sufficient on its own as a bulwark against the misguided economics of collectivist regimes, nor can it easily resist what in the past have been their stunning descents into tyranny. Michael Polanyi argued that the collective purpose of the community had to be based on something other than mere class struggle or civil unrest. Raising the bar for the common man to comprehend the logic of the trade cycle, and to appreciate the macro-dynamics of unemployment in the face of curtailed demand, was one small, but highly significant, step towards the prevention of civil war and the promotion of prosperity with justice and freedom. The present is surely as good a time as any to renew Polanyi's call for an economics education for the common man, and to reassert the moral principles upon which it rests.

“Is it, then, time for Liberalism to return to charge with the fervor of its early intransigence, which it professed up to about seventy years ago, before beginning to give way to the growing claims of collectivist ideas? I believe this to be justified to [a] certain extent.”

—From: “Collectivist Planning,” a talk given in April 1940 by Michael Polanyi (*SEP* 138).

At the time of writing this essay, the world finds itself at a crossroads of global economic uncertainty, notable for its great disparities in wealth and access to resources; for large-scale movements of displaced persons, often fleeing from mortal ideological struggles; and for widespread anxiety about the very preservation of “western” or liberal values and freedoms. This is a place we have been before, but where many had somehow believed, or perhaps just hoped, we would not arrive again. What better time then, than to revisit the ferment of economic thinking that emerged in the 1930s and 40s in response to world war and a global economic crash of then-unparalleled scope. In particular, what can we learn from that episode about the connections between economic policy-making, political movements, and the standard of living?

What follows are the reflections of an economic historian of another period altogether (medieval and early modern Europe), but one who is concerned about the tools we use to measure the standard of living, as well as eager to discover how this measure might be improved upon, and to understand those things that might derail its progress. Here we ask in particular how all of these questions were understood in the crucible of war, tyranny, and global depression in the first half of the twentieth century. The central character in this exploration is Michael Polanyi, known to many for his path-breaking research and teaching in physical chemistry up to the middle of the 1930s, to even more for his path-breaking contributions to the field of the philosophy of science in the post-war period, and to only a relative few for his remarkable insights into the functioning of the macro-economy, which was the focus of Polanyi’s incisive analytical mind during the brief period between the latter years of the 1930s and the immediate aftermath of WWII. But before we can address the critical questions raised by the turmoil of that period, we are well served to start our investigation even earlier in the eighteenth century at the onset of “liberal” economic thought.

Adam Smith grounded his famous 1776 critique of the political economy of mercantilism on the charge that it was a system inimical to advancing the material and social welfare of people. Instead of looking primarily to the needs of the consumer, mercantilism privileged the financial interests of those who produced and sold goods, and by extension the interests of those with the power to tax that production. In what was for the late eighteenth century a remarkably bold and unusual claim, Smith pictured a very different kind of economic system. He argued that “consumption is the sole end and purpose of all production; and the interest of the producer ought to be attended to, only so far as it may be necessary for promoting that of the consumer” (Smith 1976 2:179). Looking back on this statement from the vantage point of more than two centuries of economic development, it is easy to overlook what a radical departure this assertion represented from the dominant thought of Smith’s day, and certainly from the economic expectations of all those who had come before him. For his was a claim that was itself a product of the already significant economic achievements of the late

pre-industrial period in England and a harbinger of what would eventually come to be known as modern economic growth. Without the sustained growth of goods and services that came to outpace even sizable increases in population, a political economy based on the needs and wants of the general consumer would not have even been conceivable.

Writing in the half century after the publication of *The Wealth of Nations*, Thomas Malthus still conceived of a world governed strictly by the iron law of population. According to the rhetorical premises of Malthus' political economy, the consumption possibilities of the common man were not of themselves a good even worth striving for. Not only did Malthus believe that population would always outstrip any advance in productive capacities, but he was also not terribly concerned about the implications of that (ultimately dubious) fact for the quality of life for the mass of poor people. The stark difference between the dismal world of the Reverend Malthus and the hopeful vision of Adam Smith is captured remarkably well by an exercise I do regularly with the undergraduate students in my European economic history survey course. We begin with the cost of outfitting Columbus' first voyage in 1492 and attempt to make a price index that will allow us to estimate the cost of the same voyage in contemporary dollars. What the students discover is that the choice of metric matters a great deal. When the expedition is priced out using labor costs (building wages from the late 15th century compared with those of a carpenter's assistant today) the current cost appears to be on the order of 30 to 200 times more expensive than if we utilize the price of gold (with the highest relative cost of the available comparison commodities), silver (the lowest), or wheat (in between the two metals) as our standard of comparison.¹ We find that the relative remuneration of labor, even unskilled labor, has increased many times faster than the price of any given commodity during the centuries that separate us from the voyages of Columbus. This is, of course, just another way of saying that economic development has taken place. For development is fundamentally about being able to set great value on human beings and the labor power and human capital they embody, not just for an elite few, but for many, most, or ideally even all.

By the early decades of the 20th century this process of development had already yielded a tremendous increase in the average standard of living, at least in the parts of the western world that were the first beneficiaries of the industrial revolution and the crucible for the "liberal" economic ideals that were its companion. Yet despite the overwhelming rise in the material living conditions of the majority of Europeans that had transpired since the time of Adam Smith, and despite the unprecedented rise in population that occurred over the same period without the predicted Malthusian consequences of total immiseration, Europe had nevertheless split into three distinct systems of political economy, only one of which was compatible with a free and open commercial and intellectual life, what Michael Polanyi would come to call in his 1966

publication *The Tacit Dimension*, “a free, dynamic society” (82). The other two systems that had taken root early in the twentieth century—communism and fascism—despite their ostensible antagonisms with each other, both feared and suppressed intellectual freedom, and in response to that fear shut down the marketplace, along with the material gains to be had from it.

Polanyi’s critique of collectivist economic systems was much deeper though than just a lament for the loss of the material gains of open commerce. As he articulates very clearly in his 1940 lecture on “Collectivist Planning,” the costs of “planning” extend to every niche of human experience.

In an ordered society every activity which affects the community is either subordinated to an authoritative scheme or is, on the contrary, stimulated to individual manifestations under the protection of public supervision. As long as certain guiding principles—of truth, of justice, of religious faith, of decency and equity—are being cultivated, and as long as commerce is protected, the sphere of supervision will predominate and planning will be limited to isolated patches and streaks. Conversely, if comprehensive planning were to prevail, this would imply the abolition of both the cultivation of guiding principles and the pursuit of commerce, with all the liberties inherent in these forms of life. Hence collectivist revolution must aim at the destruction of liberty, and in particular must suppress the privileges under which Universities, Law Courts, Churches, and the Press are upholding their ideals, and attack the rights of individual enterprise under which trade is conducted (*SEP* 129).

For Polanyi, the arts, history, literature, philosophy, science, and theology, not to mention justice and morality, were all equally the victims of the tyrannical economic systems of the Soviets and the Nazis that he believed were the most poisonous fruits of his era. This was a theme that remained central to his later, and much better known work on what he called “the tacit dimension” of scientific knowledge. In the final essay of the 1966 book of the same title, Polanyi writes:

Take once more the example of science. I have spoken of the principle of mutual control through which each scientist independently plays his part in maintaining scientific traditions over an immense domain of inquiry of which he knows virtually nothing. A society of explorers is controlled throughout by such mutually imposed authority” (*TD* 83-84).

If one were to change just a few of the nouns in this passage it would sound remarkably similar to Adam Smith's description of the invisible hand that coordinates for the benefit of all, the otherwise autonomous activities of individual economic agents. This felicitous harmonization is achieved even though each individual has only very incomplete knowledge of what is in fact a complex system that functions so as to meet their needs and desires.

Both science and the economy, work on the same principles. Both seek an absolute good. For science this is what Polanyi believed was "the presence of a hidden reality" (*TD* 82), and for economics it was prosperity for the many. Both require independence of individual action, but under the "supervision" of "guiding principles—of truth, of justice, of religious faith, of decency and equity" (*SEP* 129). And both have the potential to yield human betterment, or what he calls in *The Tacit Dimension*, "moral progress" achieved "by the exercise of power and aiming at material advantages" (*TD* 86). That moral advance requires the "taint" of otherwise base social mechanisms was a fact, he asserted, that "we must accept" (*ibid*). Here the easily heard echo for an economic historian is to Bernard Mandeville and his infamous *Fable of the Bees, or Private Vices, Publick Benefits* of 1714, an expansion of the poem published in 1705 in which he argued that "Bare Virtue can't make Nations live in Splendor." Only the cultivation of private self-interests could do that.

What was it then that led so much of Europe after the turn of the twentieth century into the error of collectivist planning, and for Polanyi, the inevitable tyranny and material deprivation that accompanied it? Surely, he claimed, it could not be a divergence in the tastes of the people. After all, as he notes in his 1937 lecture "On Popular Education in Economics," the items actually desired by people were in fact remarkably consistent across societies, with "modern dances, motor-cars, birth control and a hundred other new customs ... all spreading regardless of frontiers, and producing everywhere the same changes" (*PE* 19).² How could so many hundreds of thousands of people end up living under systems that were so disastrously inimical to their self-interest, to say nothing of their liberties? And if we could understand from whence communism and fascism had emerged, what would it take to shore up, or rescue outright, the liberal ideal that Polanyi held in such high regard? This was a puzzle indeed.

Ironically, Polanyi begins his search for answers with a variation on the very theme he held to be the highest good of both the liberal economy and later free science: complexity. Here though it is framed as a problem, the problem of perplexity. In one of his earliest lectures on economic questions, the June 1936 lecture titled "The Visual Presentation of Social Matters" delivered to the Association for Education in Citizenship, he develops a remarkable argument in a section titled the "Perplexity of Rats and Dogs."

Even rats and dogs cannot live in perplexity. Take three sets of rats: give one set a meal a day; give the other set the same meal only every second day; and restrict the third group to a meal on every third day. All three groups will thrive; the rich, the middle-class and the poor will get on equally well. But take a fourth set of rats and feed them at periods varying irregularly between one and three days and you will see the rats of this set die. They get more than the poor rats, yet while those prosper on their meager diet they perish because their organism is thrown into a state of confusion, all their reflexes of digestion are dislocated, they die of perplexity (2014/15, 14).

The passage goes on to discuss Pavlov's famous experiments with dogs, and then with full conviction to connect that research to the confusion of his own times.

The misery of this dog lies beyond the scope of utilitarian principles and so does the misery of our times. I believe that the twenty-two years of wars and revolutions which lie behind us have been mainly caused by a mental derangement arising from a state of continued perplexity—a perplexity which is so fatal to society because it not merely relates to food as that of the dog, but involves the very basis of moral relations from man to man (2014/15 14).

The very system that Adam Smith had so confidently proclaimed in *The Wealth of Nations*, and that had so effectively outwitted the dire predictions of the Reverend Malthus, bore in itself the seeds of its own undoing. As Polanyi put it rather simply, "In the past two centuries an economic system has developed that we fail to comprehend" (ibid). Or as it appears in an even stronger statement to this effect in his lecture of the following year: "Man was not intelligent enough to understand the economic system which he brought forth in the nineteenth century. In consequence, when he tried to apply his aims and endeavors of justice, freedom and prosperity to economic life, the results were to a great extent futile or ruinous" (PE 19). The invisible hand was too invisible for its own good. Its success, spectacular as it was in the material realm, was nevertheless overshadowed by the uncertainties to which it gave rise. Indeed, for Polanyi, the depths of its incomprehensibility were such that actual mental disorder on a broad scale was the result, the manifestations of which were communism and fascism, and the simple but deadly 'truths' they purported to offer.

How then might one save the liberal project so as to secure for the future the already-demonstrated benefits that come when autonomous economic actors work together in complex interactions for the mutual good? How could society embrace the

virtues of the invisible hand without succumbing to the perplexity to which it seems to have given rise? How might society resist the temptation for easy, even if terribly wrong, answers? Reasonably enough, Polanyi argued that if the problem was a failure of the common man to understand, then the solution had to involve the human capacity for understanding. Liberalism could only be saved if it could find a way for the common man to emerge from his perplexity. Understanding the economy could no longer be just the preserve of the economists, but instead a general prerequisite for citizenship. Only an economics education could offer a lifeline of sanity for every person who produced or consumed and had to engage in trade to make both possible. In short, economics had to be for everyone.

But what kind of an education, exactly, could meet the need? What principles had to be learned, or perhaps unlearned? Would it be enough if everyone could understand the theories of Adam Smith, or perhaps even more to the point of his intellectual heirs, the so-called “utilitarians” for whom the price mechanism in labor, commodity, and capital markets, was all that was needed to achieve their desired state of “maximum efficiency” (PE 20)? Polanyi did not think so. Indeed, it was precisely the “great mistakes” of the utilitarians that had led to the present crisis in the first place. His interpretation of this failing is worth quoting in full.

The utilitarians, however, made the following great mistakes:

1) They failed to see that the just reward of the factors of production did not lead to a just reward of the people disposing of these factors. Their philosophy never produced an idea as to how the just reward of the various people should be assessed.

2) The utilitarians overestimated the idea of the free market. They thought it to be applicable to all human relationships and, therefore, opposed all legislation regulating labour conditions and objected to free services by the community, as for example, free education. They failed to produce an idea as to the limits to which human affairs should be regulated by buying and selling.

3) The utilitarian economic theory gave no reasonable account of the trade cycle. It left the unemployed in the depression without even an intellectual consolation and objected to any action to improve their lot.

4) The general weakness of utilitarianism, which includes the above particular failures, is this: that its philosophy makes self-seeking the supreme principle in economic life and assumes that people are happy if seeing their blind acquisitiveness is transformed into a maximum efficiency (PE 20).

Remarkably, with the distinct exception of point number three to which I shall return below, these mistakes are in essence all moral failings, not economic ones. They are the result of misplaced values, not faulty logic, or a misguided trust in the workings of the invisible hand in the marketplace. They are about justice, and the reasonable limits to the arenas in which self-seeking behavior is appropriate, not a condemnation of self-seeking in general. According to Polanyi then, utilitarianism made itself an easy target for the superior-sounding moral claims of nineteenth century communist rhetoric. Indeed, as he goes on to argue, “political dictatorship arose firstly as a result of class war, then [was] perpetuated to insure the subjection of economic activity to collective aims” (PE 23). The proverbial baby was thereby thrown out with the bath water.

The problem for political economists, of course, is that it is actually very difficult to avoid doing just that. Once you start making distributional claims on the grounds of justice, which of necessity will sometimes override the distribution as meted out by the market, it is very hard to avoid invalidating the benefits of the market altogether. How do you strike the balance between enough self-seeking to promote growth in the economy, but not so much that it leaves you vulnerable to attack on precisely the grounds that first communism and then fascism were able to attack economic liberalism? Polanyi’s answer to this dilemma in his 1937 lecture is a bit slippery. He does a better job of saying what must happen than he does of specifying how to make it happen: “If this analysis is right it follows that if we wish to avoid dictatorship we must revise utilitarian economics by some other means than civil war and must, in particular, find some means to make the community conscious of its collective purpose by means other than dictatorial regimentation” (PE 22).

The firmest ground on which he can stake an actual policy prescription concerns the third mistake of his critique, the alleged failure of the utilitarians to educate the public on the mechanics of the trade cycle. This offered one place where a concrete bulwark against the collectivist system might be constructed. But why the trade cycle, per se? Why privilege the concerns of macroeconomics over those of microeconomics?

First, we must remember that Polanyi only turned to a serious study of political economy well into the decade characterized by global depression and soul-shattering unemployment. In this context, he developed a keen appreciation for the work of John Maynard Keynes, an appreciation he still felt strongly in the second half of the 1940s, even after the employment boom spurred by a half-decade of world war. The Keynesian principles that had been refined in the crucible of global depression were in Polanyi’s opinion still the right ones to guide the organization of the economy going forward. Of Keynes’ theory he says, “At last we have before us a fundamental criticism of liberal economics which avoids the mistakes of Communism” (PE 23). This is also the core message of his 1945 publication, *Full Employment and Free Trade*. Here we are introduced to concepts such as “The Money Circle,” “Capital Saturation,” “The Trade

Cycle,” “The Gap at Full Employment,” “A Modern Budget,” and “Wartime Finance as a Counter Example,” among others.³ All of these constructs live in sharp contrast to the Soviet manipulation of the collectivist economy or Hitler’s so-called “abolition of unemployment,” both projects that ended in disaster, whether economic or political or both.

Even more important though for the education of the actual common man than a treatise published by Cambridge University Press could ever be, was the documentary film he made in 1940 titled, *Unemployment and Money: the Principles Involved*. Here we find the first appearance of “The Money Circle,” along with the cartoon workers, housewives, and investors who populate the model, and the factories, shops, and banks where they carry out their daily activities. The film depicts hundreds of autonomous actors, each making decisions on the basis of their own needs and desires, yet working inadvertently in concert with each other in a system that is capable of self-regulation and balance.

Moreover, when we circle back from the film to the 1937 lecture that laid the groundwork for it, we realize that the film is itself a deeply moral project. As Polanyi argues so eloquently at the close of his lecture, “the spiritual advantage of dictatorships lies in their enforcement of an idea of economic life. Democracy can satisfy this craving for economic consciousness by creating a popular understanding of economic matters. It is the only way to obtain economic consciousness while preserving freedom of thought” (PE 23). This educational project then, comprised of simple concepts presented in straightforward and repetitive language, enacted by cartoon figures, and utilizing popular film—the true medium of the masses—was fundamentally tasked with a deeply spiritual mission, to restore “consciousness” to the masses but in such a way so as not to compromise their freedom.

Prosperity is an excellent end, but it cannot stand alone as a bulwark against the misguided economics of the collectivist regimes, nor can it hold against their stunning descents into tyranny. As already noted, Polanyi believed that the collective purpose of the community had to be based on something other than class struggle or civil unrest. Those were the sure road to dictatorship. Raising the bar for the common man to comprehend the logic of the trade cycle, and to appreciate the macro-dynamics of unemployment in the face of curtailed demand, was one small, but highly significant step towards the prevention of civil war and the promotion of prosperity with justice and freedom. In short, it offered the rescue of the baby from the bath water. As we face our own moment of dangerously heightened global and national inequality, of reactionary political responses to unemployed and displaced persons, and the seeming disintegration of liberal principles, there is much to commend a renewed commitment to Polanyi’s economics education for the common man, and the moral principles upon which it rests.

ENDNOTES

¹These calculations can vary considerably from one year to the next depending on fluctuations in the spot prices of gold and silver, along with future prices for wheat. However, the order of magnitude never changes. Costing out the voyage in contemporary carpenter's wages makes a modern version of the same voyage financially ruinous.

²References to "Popular Education" will use the page numbers of the version found in this issue of *TAD*.

³These are all section titles from Chapter One, "The Elements of Full Employment."

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POLANYI'S ECONOMICS AND THE NEW START IN EUROPE



Harry Prosch

Keywords: *Logic of Liberty*, planned economy, free market, State intervention in markets, traditional values, polycentric tasks, Harry Prosch, Michael Polanyi

ABSTRACT

Originally presented as a paper at the 1991 Kent State conference, this essay offers Prosch's interpretation of Polanyi's views on social order and economics. It also engages "Popular Education in Economics," which is included in this issue of TAD.

[**Editor's Note:** This paper was originally published in *From Polanyi to the 21st Century: Proceedings of A Centennial Conference, Kent State University, April 11-13, 1991*, Richard Gelwick, editor (The Polanyi Society 1997), 295-304. Apart from some minor formatting changes and the addition of keywords and abstract, we reprint the paper as is. Unfortunately the superscripts for the endnotes are missing.]

Now that Eastern Europe has discovered from experience the truth of what Michael Polanyi maintained so long ago: it is as impossible to operate a centrally planned economy as it is for a cat to swim the Atlantic Ocean, it might be useful for us all to look again at why he thought this was so, and at how he thought unplanned economies could be managed.

My first introduction to Polanyi's thought was to his views on economics and freedom in my reading of his *The Logic of Liberty*, which had just then come out. The book consists of a collection of his essays which had been published from 1941-50 in various journals. The economic views which he expressed in this book are part and parcel of its larger thesis concerning how a free society is structured. Thus the title: *The Logic of Liberty*.

He held that a free society is not an utterly free libertarian, open society, where everything is up for grabs, including even basic beliefs, the sharing of which made free society possible. A free society, he held, rested on a faith, held by the people in common, in the values of truth, honesty, justice, beauty, and God, and thus also respect for the freedom of the communities, or enclaves, which people have formed in their pursuit of such values, namely their scientific, legal, artistic, and religious communities.

We have a free society, he claimed, when the value of such things as these are respected by people in such a society and are thus held to be of right free from State control, and we don't have a free society when they are not so respected.

The fact, which he went on to assert, that these commitments are and must remain held only by faith, that they cannot be proved to be worthy of commitment, struck me at first as being odd, since they have been argued for succinctly by many of our great philosophers for something like 2,000 years. I knew these philosopher's writings rather well and I knew how cogent their arguments were. I came to realize, of course, after *Personal Knowledge* and other works of his, that by "proved" Michael meant logically or rationally demonstrated beyond any reasonable doubt. His distinction between "proved beyond any conceivable doubt" and "proved beyond any reasonable doubt" made perfect sense to me. A philosopher's *basic* principles could not, of course, be deduced from something more basic and thus could not be logically demonstrated or proved. Thus, "proved beyond any reasonable doubt" was the best I had ever supposed could be done with any philosopher's basic principles.

Polanyi, however, went on to show (beyond, it seems to me, any reasonable doubt) something that should, perhaps, be obvious, but the drastic import of which is often overlooked, viz., that we can have no *explicit* way of showing that *any* decision or judgment we reach is (objectively) beyond any reasonable doubt.

So we Polanyians are and must remain obscurantists in the minds of our contemporary "analytical" friends. For, he held, all our decisions, including, of course, our judgments on our basic principles, are simply our own perceptions that they are sound or true, that they are adequate to our universal intent, and these *focal* perceptions of ours are actually rooted in myriads of *subsidiary* clues, in which, he held, we only *dwell* tacitly when we see, standing in them, that our decisions are right and sound. We do not explicitly *deduce* from these clues the logical conclusions which are our decisions. We cannot even explicitly know all of them.

This distinction between "dwelling in" these clues *to* the decision and "deducing" the decision *from* these clues, is, I presume, well understood by you who are familiar with Michael's thought.

Thus the logic of liberty in a society requires that its liberty rest upon a tacitly and commonly held faith in what Polanyi called our traditional values. Within the bounds of these commonly held values resided the liberty of people to hold diverse views about

policies and actions they think their government and societies ought to take. Their commonly held basic beliefs kept the clashes of their other differences from destroying their society or each other.

The logic of liberty also exhibited the same structure, he held, in communities of people who are bound together by commonly held beliefs [i]n certain standards and principles for the pursuit of other aims or objectives. Therefore he held this same structure existed also in such articulate systems as the sciences, the arts, the practice of law in the courts, and religion. Such basic structure made it possible for people to be free then also within these groups, to make their own contributions to the common task of discovering such things as knowledge or beauty or religious edification or law and justice. It was like in part, Polanyi held, a group of people working on a jigsaw puzzle. The goal and procedures of the task were held in common by the workers, but each was free to pick up and fit in the pieces to the puzzle as he himself saw the feasibility of doing so. And his contribution, if indeed it was seen to fit what had already been put together, opened the opportunity for further meaningful contribution by others or by himself.

The task of each enclave became therefore called a *polycentric* task, i.e., one that was achievable by means of efforts exerted from many centers interacting with each other. To try to organize the working of a task, which was essentially polycentric by nature, through establishing a central authority to direct the actions of each center of action (or worker of a puzzle) would, of course, be an absurdity. The “corporate order,” as he called it, resulting from such an attempted central control would be grossly inefficient, as compared with what he called a “spontaneous order” resulting from the operation of many centers upon each other. He showed graphically in his text how the span of control becomes multiplied in a polycentrically controlled system.

Managing an industrial economy, Polanyi said, is inherently a polycentric task, since resources and changes in resources must be ordered to the production of manifestly varied products, and parts of products, which must also be varied to meet changing needs and desires in consumers in temporal synchronization. A free market situation can meet these changes in a timely manner, he showed, by means of allowing its centers to freely interact with each other, allowing the pricing of all discrete goods and services involved to be set, not by decree, but by the buying and selling of producers and consumers competing in a free market, using their own judgments concerning the value of certain items to them relative to the value of alternative items. And the measure of whether or not a firm did in fact use resources, thus priced, efficiently to satisfy consumer wants would be its ability to make sufficient profits to stay in business—in a system of competition, of course. Central direction, he held, would shortly be at a loss to make such on-going adjustments. As Gorbachev said recently to some members of our congress: prices in the Soviet Union represent only chaos. They reflect

no realities whatsoever. Being set mainly by decree, there is no way, as Polanyi showed, they could reflect either production needs or cost or consumer needs or demands, let alone [all] of these operating together upon one another [*editor's note: a duplicate line has been omitted here!*] Individual, timely, judgments from all participating centers are necessary, and, as Polanyi showed us, in making judgments, subsidiary clues must be dwelt in by minds. So not even a computer could be used by a central planner to render judgments by individual persons unnecessary in the market.

In *The Logic of Liberty* he showed in an amusing fashion the absurdity of trying to do this, even if the planner could attach gauges to persons to show to him when they were all optimally satisfied. The individual judgments of the wearers of these gauges would still have to be made by these persons in order for their gauges to have anything to register!

Polanyi maintained, therefore, that the free market and free competition (the free enterprise or business community) were very essential to the management of an industrial economy, regardless of whether the State or private individuals owned the capital. It was, however, one which he held that differed in a peculiar way from the other enclaves or communities of a free society, i.e., those of science art, law and religion. The ends or goals pursued by such articulate communities as these (and also their freedom to pursue these goals) were respected, Polanyi held, for their own sakes in a free society. For this is what made it free. The economic freedoms to buy, make, and sell economic goods as we producers and consumers see fit to do, by contrast, was something to be respected only for its operative value in managing our economies, not in the way that the freedom to pursue truth or justice or beauty or God is respected. Thus he found that limits or controls put upon such economic freedoms by the State were acceptable in a free society, if there were good reasons for establishing them. And Polanyi did hold there were such good reasons.

The Utilitarians correctly saw, he thought, how the free competition in a truly free market resulted in a just reward of the factors of production. But, he said in a lecture written for The Political Society in 1937 and found among his unpublished papers, "They [the Utilitarians] failed to see that the just reward of the factors of production did not lead to a just reward of the people disposing of these factors." Thus their philosophy, he held, never produced an idea as to how the just reward of these various people should be assessed.

The Utilitarians also, he wrote, overestimated the applicability of the free market "to all human relationships. They failed to find limits to the regulation of human affairs by buying and selling."

Their theories also, he said, "gave no reasonable account of the trade cycle," leaving the unemployed, in a depression, without help or hope. We still hear some people say that things will right themselves through market operations. There is a joke going

around the campus at the University of Chicago in which one asks, “How many Chicago economists would it take to change a light bulb?” And the answer is, “None. The Market will take care of it.”

But the general weakness of their ideas, Polanyi wrote, was that the Utilitarian philosophy “made self-seeking the supreme principle in economic life” and assumed “that people are happy if their blind acquisitiveness is transformed into maximum efficiency”—by the operation of the market, of course. He held that “in fact, blind acquisitiveness is repugnant to the social instincts of man.” He thus “revolts against the idea that the community should refuse responsibility for giving its citizens opportunity to work” and to have an “educated, healthy life.”

Because of these inadequate ways in which the market was defended, Polanyi pointed out, many intellectuals embraced the Communist movement which demanded that such things as exploitation, marketing, and the trade cycle should be wiped out and the merely acquisitive system be replaced by a community consciously working for its common needs. Marxism did not show how this could be done, nor did it, it is true, present itself as a moral crusade for the abolition of these morally repugnant “things.” Rather, Polanyi pointed out, it presented itself as a science which purported to show how the bourgeois values arose out of merely non-moral economic interest, as did all other values, and how they would be swept aside when the proletarian class attained awareness of its own interests and, through an inevitable class war, seized by [sic] means of production. Thus, to bring the revolution into being it was necessary, they held, to ruthlessly sweep away and repress our “merely” bourgeois values, engaging in whatever lying, cheating, murder, or betrayal (even of one’s friends) which seemed necessary to bring the revolution to success, operating only with deference to “Party Truth” (so called “ideal” truth being always simply a function of some class interest). Such destruction of the old bourgeois values was, in scientific truth (in their view) destroying nothing of real value anyhow, for these values had no transcendental or eternal or rational worth.

In spite of this hard-headed “realism,” Polanyi held, the real fuel which drove the Marxist movements to popularity was, ironically, the emotional fires generated by our traditional morality, only now raised by imagination to the fervor of a perfectionism supposedly required by a secularly transformed ideal of Christian brotherhood—and driven underground in our psyches. Since materialistic scientism had taken over our thoughts, we could only allow ourselves to think of values as mere manifestations of deeper and more animalistic, or even physicalistic, “realities,” not as realities in their own right. Thus was born what Polanyi christened “moral inversion”—a demand for tough minded, ruthless immoralism which was however, subconsciously based upon the subterranean moral values which our conscious thoughts were denying reality to.

Thus the results have been disastrous for the world, Polanyi claimed, not only economically (due to foolish attempts to order our economies without the aids of money, markets and profits) but also in the development of despotic tyrannies due to the destruction of respect for the public liberties exercised in a free society by the communities of scientists, artists, divines, lawyers, etc. A planned, totalitarian society had no need for such enclaves of personal knowledge and action. In fact, they would make planning the society impossible.

Polanyi thus saw a return of private enterprise, free market system was called for. And we now see that it is in fact in the throes of being restored in Eastern Europe and even in the Soviet Union. “Throes” is the proper word. We do not yet know how to *plan* for a *planless* economy.

But Polanyi warned us there were several exceptions we ought to make to the rule of a free market. He named two of them in an unpublished paper entitled “Suggested Headings for Memorandum to the Harris Committee,” probably written about 1943.

1. Where monopoly cannot be destroyed, he wrote, or competition enforced without destroying productivity, the State must remove the industry concerned from the field of Private enterprise either by public ownership or public control.
2. The State must also provide crutches, from the general social fund, for individuals (but not for industries) who are too weak to stand up to competition. From remarks made in his *The Logic of Liberty* we see he would also include in this State aid, provisions for education and essential health care.

But also, as he outlined in some detail in his *Full Employment and Free Trade*, the State must manage the trade cycle through Keynesian principles, by engaging in deficit spending in times of recession and unemployment, and in taxation when the economy is booming. The market is unable, he held, as Keynes showed, to handle this economically and humanely essential task.

He also held in *The Logic of Liberty* that the State has the function of regulating industries producing noxious or environmentally dangerous by-products. Since, he said, there is no market for obnoxious smells and sights or for environmental hazards, the market cannot handle these problems either.

In summary let us note that in all these remarks Polanyi can be seen to maintain that some intervention by the State in the market is required both to perform some economic tasks and to care for people in accordance with our traditional values of humaneness and justice.

Some people have feared that shaking off the yoke of communism with its central planning in Europe might result in an all-out embrace of the old Utilitarian principles of complete trust in the market to do everything, a rabid libertarianism which a

von Hayek, von Mises, or Milton Friedman seem to many to espouse. Polanyi's social philosophy would certainly be an antidote to such a tendency, while still preserving an intelligent dedication to the use of free markets and competition to manage the economy.

"The truth is [he wrote] that universal commercialism is as absurd as absolute collectivism, and that social life cannot be exclusively based on either of these principles. A return to the peaceful evolution of economic life must be based on a system which recognizes that fact and hence states no presumption in favor of either method, but seeks to establish the just measure for applying each of them."

"We cannot expect a division by purely objective criteria" (surely a characteristic Polanyian warning). "There is good reason why the borderline between commercial and collective management should be hotly contested, and constantly fluctuating... It is the task of social philosophy to clarify the issues of the contest, so as to make possible an agreement by compromise over unavoidable clashes, and to establish mutual tolerance..."

Thus the specific points we have seen him mention which should be free of State control, or subject to it, and the fixing of the border between them, are in his opinion always open to our judgements, which cannot be explicitly formulated, and which may indeed change with the time and circumstances, and also which may differ in the honest judgements of different persons.

It is my earnest hope that this sort of social philosophy may come into existence, not only in Eastern Europe, but also in this, our own country, since we ourselves seem, in my opinion, to be getting somewhat muddled about some of these matters.

End Notes

¹Paper presented on April 12, 1991, at the Celebration sponsored by the Polanyi Society of the 100th Anniversary of Michael Polanyi's birth, held at Kent State University, Kent, Ohio.

²*The Logic of Liberty* (Chicago: University of Chicago Press, 1951).

³"[On] Popular Education in Economics." Notes for a Political Society lecture, November 22, 1937, pp. 4-5 (unpublished). Michael Polanyi Papers, Box 25, Folder 9. Special Collections, University of Chicago Library.

⁴*Full Employment and Free Trade* (London: Cambridge University Press, 1945).

⁵The sixth of "Six Conditions for the Operation of Resources Forming Personal Property," dated November 29, 1941, pp. 1 and 2 (unpublished). Michael Polanyi Papers, Box 26, Folder 5. Special Collections, University of Chicago Library.

POLANYI'S "ILLUMINATION": ARISTOTELIAN INDUCTION OR PEIRCEAN ABDUCTION?



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Keywords: illumination, induction, Aristotelian induction, abduction, Aristotle, Peirce, Louis Groarke, verification, justification

ABSTRACT

Illumination is a prominent feature of the phenomenon of discovery that is at the heart of Polanyi's Personal Knowledge. Illumination is prominent as well in Louis Groarke's "Aristotelian induction" and C. S. Peirce's abduction. This study pursues the question of whether the term has similar meaning across these three contexts. Close examination of what is said about illumination in each of them shows that Groarke assigns an epistemological autonomy to illumination that is recognized by neither Polanyi nor Peirce. Further, Polanyi and Peirce concur in the role assigned to verification and thereby in the importance of temporality and a community of inquiry.

Michael Polanyi in *Personal Knowledge* strikingly and at length dwells on the "illumination" that is for him an essential aspect and the most dramatic moment in discovery. Speaking enthusiastically from personal experience, he affirms that illumination "is the plunge by which we gain a foothold at another shore of reality."¹ The further one proceeds into *Personal Knowledge*, the clearer it becomes why Polanyi begins the book with "The Lesson of the Copernican Revolution" and then acclaims Ernst Mach's "super-Copernican vision" which was itself a prefiguring of "the great theoretic vision of Einstein" (*PK*, 12). Such seeing in an unprecedented fashion, whether it belong to a great mind on the frontiers of knowledge or to an ordinary individual coming

to understand something in the world, plays a central role in Polanyi's philosophical anthropology.

Readers familiar with Polanyi recognize that his celebration of illumination is married to preoccupation with testing and verification. This is to be expected from a world-class scientist. The question that presents itself is whether, in the midst of this emphasis on testing and verification, there is in Polanyi's illumination an autonomous epistemological authority. Within Polanyi's account, is there any sense in which illumination stands alone?

In a recent book, the Canadian philosopher Louis Groarke offers a lengthy discussion of epistemologically autonomous illumination under the heading of "Aristotelian induction."² Groarke explains:

On the traditional Aristotelian account, induction is not a matter of proof but of discernment. We observe this or that instance and come to *see* the underlying principle at work. We come to this realization, not through discursive proof, but through *epagoge*, through the sudden grasping of a necessary insight. We do not *prove* through tabulation; we recognize, in a flash of illumination, what must always be the case (366-67).

Elsewhere, he adds, "Through a primitive but powerful movement of illumination, the mind is able to hit on concepts, universal claims, and definitions describing the world. This inductive process operates by means of the intellectual faculty of *nous*, which is always true and even more infallible than scientific demonstration" (198). We thereby "discover order in the world...through the kind of creative inductive insight Aristotle champions" (428).

Central to Groarke's account is the conviction that "[i]nduction has epistemological authority in its own right" (196). Nothing is so certain as the insight or illumination it affords. Even if the discerned principle were subsequently to be demonstrated through empirical inquiry, nothing vital has been added. The illumination issuing from Aristotelian induction is epistemologically autonomous. Can the same be said for the illumination that is so important to Polanyi?

Groarke vehemently distinguishes Aristotelian induction from the process of abduction that he quite rightly affiliates with C. S. Peirce. For Groarke, Peirce's abduction amounts to "brainstorming," which for him represents faux illumination (321 ff.). As part of an extended critique of Bernard Lonergan, Groarke states,

We might distinguish traditional and modern theories of intuitive reasoning, what I will call "the inductive view" and "the brainstorming view." On the inductive view, we inspect the physical evidence

and a light comes on. Intelligence discerns in the evidence what is inescapably true. So-called proof is after the fact. On the brainstorming view, the mind throws out ideas in a provisional way. These hypotheses must be tested. It is not the process of discernment but that of empirical (or logical) verification that has epistemological weight. Knowledge only supervenes when we prove (or disprove) the hypothesis (321).

He adds,

On [Lonergan's] brainstorming account, it is as if discernment is postponed until after the proof. We are blind and empirical corroboration makes us see. But this is not how successful science proceeds. In successful cases, the scientist discerns what must be the case and then proceeds to prove it. Confirmation plays an important role but it is logically *a posteriori*. It is not, initially, what makes us understand anything (324).

Prominent in Groarke's account of brainstorming is the assertion that whatever illumination or insight that occurs therein is hypothetical. Something is seen but it is genuinely known only subsequent to a process of testing and verification. This is in contrast to Aristotelian induction where, says Groarke, while the scientist may elect to test his insight, genuine knowledge exists at the moment of illumination.

Groarke affiliates brainstorming with the process of abduction that plays a vital role in C. S. Peirce's logical theory. He is clearly justified in doing so, as we see from the following passages from Peirce.³ To set the stage for later, fuller discussion, each passage will be accompanied by brief commentary.

- 1) "Abduction...is merely preparatory. It is the first step of scientific reasoning... and abduction is, after all, nothing but guessing" (from 1901).⁴ Note abduction's orientation toward the future, and also its fundamentally conjectural character.
- 2) "All the ideas of science come to it by the way of abduction. Abduction consists in studying facts and devising a theory to explain them. Its only justification is that if we are ever to understand things at all, it must be in that way" (1903).⁵ The term "devising" will prove of considerable interest. The general significance of abduction captured in the second sentence helps us to understand why Peirce (also in 1903) states, "If you carefully consider the question of

pragmatism you will see that it is nothing else than the question of the logic of abduction.”⁶

- 3) “Abduction is the process of forming an explanatory hypothesis. It is the only logical operation which introduces any new idea...Abduction merely suggests that something *may be*” (1903).⁷ Abduction for Peirce it is one of three logical operations (the others being deduction and induction), each of which plays a vital role in human knowing. Again, speculation is at the heart of abduction.
- 4) “The abductive suggestion comes to us like a flash. It is an act of *insight*, although of extremely fallible insight. It is true that the different elements of the hypothesis were in our minds before; but it is the idea of putting together what we had never dreamed of putting together which flashes the new suggestion before our contemplation” (1903).⁸ How very interesting for students of Polanyi is Peirce’s assertion that what existed before illumination contributes significantly to the emerging hypothesis. In addition, the juxtaposition “fallible insight” is striking. “Flash” of course summons a vision of illumination.
- 5) “What is good abduction? What should an explanatory hypothesis be to be worthy to rank as a hypothesis? Of course, it must explain the facts. But what other conditions ought it to fulfill to be good? The question of the goodness of anything is whether that thing fulfills its end. What, then, is the end of explanatory hypothesis? Its end is, through subjection to the test of experiment, to lead to the avoidance of all surprise and to the establishment of a habit of positive expectation that shall not be disappointed” (1903).⁹ With its stress on practical consequences and reference to predictable, effective living, it is difficult to imagine a statement more classically pragmatic in nature. Any thought of Aristotelian teleology that is sparked by Peirce’s reference to “end” is squelched by our realization that whatever end he has in mind is subordinate to the ongoing and open-ended process of human living in the world. We have here an observation regarding not only the purpose of abduction but also its origins.

If there is reference to the flash of illumination in Peirce’s abduction as well as in both Polanyi’s account of scientific discovery and Aristotelian induction, it is also the case that Polanyi joins Peirce in his emphasis on testing and verification. He says, for example, that the discovery delivered by illumination is more precisely understood as “*tentative discovery*” (*PK*, 121; emphasis added) because the attempt to act on what was seen may show the insight to be mistaken.¹⁰ As he states in his account of problem-solving, “Since the practical realization of the principle discovered by insight often presents difficulties which may even prove insurmountable, the manipulations by

which the animal puts his insight to the test of practical realization may be regarded as the stage of Verification” (121). A few pages later, Polanyi adds, “Actually...such a flash of triumph usually offers no final solution, but only the envisagement of a solution which has yet to be tested” (130). Finally, in a sentence that is scarcely distinguishable from Peirce’s description of discovery, Polanyi remarks, “It is of the essence of scientific method to select for verification hypotheses having a *high* chance of being true” (30).

The central question thus emerges. Given Polanyi’s agreement with Peirce regarding the need to test and verify the product of illumination, is there any room in his account of discovery and problem-solving for the epistemological autonomy of insight that constitutes the heart of Aristotelian induction? Is Polanyi thoroughly modern, a pragmatist through and through? Or, alternatively, might Polanyi offer an account of discovery that escapes the mutually exclusive classifications offered by Groarke? Could Polanyi have a foot in both camps? Just what is going on in Polanyi’s “illumination?”

In *Personal Knowledge*, illumination is portrayed as the traversing of a logical gap.¹¹ *The Tacit Dimension*, the work of a later Polanyi, downplays the notion of crossing a gap and instead emphasizes the role of integration in knowing.¹² Even here, however, Polanyi emphasizes that we are witnessing a logical operation (“a logic of tacit thought”).¹³ The idea that tacit knowing involves a logical operation is formally acknowledged by the title of a 1964 essay (“The Logic of Tacit Inference”) in which Polanyi reports that he is “developing a theory of non-explicit thought” that is properly referred to as “an *informal logic* of science and of knowledge in general.”¹⁴ At the heart of this logic is the exercise of our “powers of perceiving coherence” (139). This is an act of integration resulting from an inference, an inference from subsidiarily known clues to a focally known object or result.

But the act of inference and the powers making it possible belong to an aware and active being that recognizes clues and engages in acts of integration in light of prior experience and earlier acts of understanding. Some see where others do not. This difference is in part attributable to character (i.e., attributes such as diligence, accessibility, commitment, perseverance, etc.). An aspect of character that is especially prominent in Polanyi’s account of discovery is belief in the nature and possibilities of tacit knowing itself. As he says in *The Study of Man*, “my purpose...is only to show that as a result of accrediting within the framework of personal knowledge a belief in true mental achievements, we gain a view of man which confirms and strengthens this belief.”¹⁵ The person most adept at seeing is one who grasps and is committed to the process of seeing. In addition, and as an aspect of such commitment, Polanyi emphasizes the importance of “incubation” (*PK*, 121-122) in which, following laborious study, one lets go and permits the tacit process of integration to run its course (ideally issuing in illumination). But the factor that appears most important in the execution of tacit inference leading to integration and insight is possession of skills that can be learned

from others (hence the importance of apprenticeship) and are augmented and refined through continued inquiry.¹⁶

As suggested above, inference occurs within the context of a larger process. For Polanyi this process is marked by stages. In *Personal Knowledge*, for example, we are told that problem-solving, or discovery, consists of four stages: Preparation, Incubation, Illumination, and Verification (*PK*, 121). This description of tacit integration as the product of stages is usefully elaborated in “The Logic of Tacit Inference”:

Discovery comes in stages, and at the beginning the scientist has but a vague and subtle intimation of its prospects. Yet these anticipations, which alert his solitary mind, are the precious gifts of his originality. They contain a deepened sense of the nature of things and an awareness of the facts that might serve as clues to a suspected coherence in nature. Such expectations are decisive for the inquiry, yet their content is elusive, and the process by which they are reached often cannot be specified. It is a typical feat of discovery without awareness (“LTI,” 143).

There is much to remark on in these references to stages. To begin with, of course, we note that verification for Polanyi is a formal part of discovery. And, while the phrase is certainly dramatic, it is unsurprising, given our acquaintance with Polanyi’s emphasis on the tacit, to read that discovery occurs “without awareness.”¹⁷ Less explicit, but no less significant, is the picture of the discoverer as an individual (interestingly, it is a “*solitary*” individual), within a problematic situation, seeking relief from a form of discomfort.¹⁸ This individual is the beneficiary of “clues” offered by his surroundings. Things in the world are one source of these clues. But so, too, are things in the mind. Integration is stimulated and made more likely by education and relevant prior experience. Within the same chapter of *Personal Knowledge* that contains the above description of problem-solving and its constituent stages, Polanyi describes in detail “the educated mind” (*PK*, 102-104). A distinguishing feature of such a mind is its capacity for and proclivity toward discovery. As Polanyi says toward the close of his account of problem-solving, “The interpretative framework of the educated mind is ever ready to meet somewhat novel experiences, and to deal with them in a somewhat novel manner” (*PK*, 124; cf. 317). What one brings to the struggle to resolve perplexity has much to do with its outcome. Our background (which is to say, our conceptual and experiential resources) is deeply implicated not only in *how* we think but also in *what* we discover.

Does Polanyi’s portrayal of problem-solving as occurring in a troubled mind contending with a problematic situation reduce the process to an instance of

tension-relief? This interpretation is suggested when Polanyi states that “nothing is a problem or discovery in itself; it can be a problem only if it puzzles and worries somebody, and a discovery only if it relieves somebody from the burden of a problem” (*PK*, 122). Is mere equilibrium, a sort of quiescence, the normal and sought-after condition? If so, illumination loses much of its allure. We are spared such disappointment, however, since within insight we grasp “a principle” (121) and gain access to “a reality to which we have access by no other channels” (359). Illumination, the product of successful problem solving, offers a distinctly positive outcome, ontological in nature: communion with a significant reality, hitherto concealed, that is in the nature of things.

Finally, for Polanyi, it is not simply a mind that experiences perplexity and achieves discovery. Necessarily among the clues that are integrated by the problem-solving individual are those arising from the body. Indeed, it is only through the paths offered by the body that we come to know the world. This realization leads Polanyi to acknowledge “the bodily roots of all knowledge and thought” (“LTI,” 147). His explanation of this statement is striking: “Every time we make sense of the world, we rely on our tacit knowledge of impacts made by the world on our body and the complex responses of our body to these impacts. Such is the exceptional position of our body in the universe” (“LTI,” 147-148).

With our understanding of Polanyi’s illumination thereby deepened, let us again visit Peircean abduction and Aristotelian induction. In doing so the first thing we notice is how much of what Polanyi reveals is recognized by Peirce. These points of intersection might be called “the Polanyian features” of his account of abduction. Among the most important of these are “a natural instinct for truth” and the role in hypothesis-formation (abduction) of “preconceived ideas.”¹⁹ For Peirce, as for Polanyi, organisms find themselves in problematic situations which they strive to resolve. In the case of human beings, both the recognition of the difficulty and development of a response to it involve the intellect. That is, we see the problem and then devise a possible solution. These are acts of insight. Peirce considers such insight to be a manifestation of “Instinct.”²⁰ He employs this unexpected term due to his acknowledgment that we have no explicit clear understanding of how the “divining” that constitutes abduction operates.²¹ We see here, then, a prefiguring of Polanyi’s conception of the tacit dimension.

Peirce highlights the role played in abduction by “guessing” and “feeling.”²² But while the act is conjectural, it is scarcely arbitrary. In abduction we *select* a hypothesis²³ and, while doing so, we follow “rules.”²⁴ Noteworthy among the rules mentioned by Peirce is appreciation of the “probabilities” associated with a hypothesis.²⁵ In reading of the role assigned by Peirce to assessment of probability, we are reminded of Polanyi’s description of the white pebbles at the Welsh train station (*PK*, 33-34). Peirce and Polanyi are equally appreciative of the part played by probability, and by professional

judgment generally, in science. Of special note is that Peirce's guessing and feeling (what we might call intuition), as well as the formulation of a hypothesis in light of rules, are informed by the background we bring to the moment. This includes the "preconceived ideas" mentioned by Peirce, including a set of tacit criteria, fundamentally aesthetic in nature, in light of which we decide whether an idea (a hypothesis) is acceptable, fruitful, etc.²⁶ The process results in "abductive expectability" (as opposed to "deductive necessity" and "inductive probability").²⁷

The parallel with Polanyi extends yet further. Peirce states, "Now the surrender we make in retrodution [his later term for abduction] is a surrender to the insistence of an idea. The hypothesis, as the Frenchman says, *c'est plus fort que moi*. It is irresistible; it is imperative. We must throw open our gates and admit it, at least for the time being."²⁸ In this description Peirce is elaborating upon and helping to explain the striking motivational power of illumination that is so dramatically noted by Polanyi. What each of them recognizes is that this power stems from a tacit understanding that the emerging idea subscribes to, and is even endorsed and mandated by, preexisting standards of plausibility and promise. (There is something special about *this* idea.) As both men stress, were such a process not operating, and operating effectively, we would be required to examine innumerable possibilities, thereby rendering discovery chaotic, and, indeed, making the advance of knowledge within disciplines impossible.²⁹

In Peirce's abduction there are two moments, each with its own perspective, which, taken together, will serve as a bridge to our further examination of Aristotelian induction and the question of Polanyi's relationship to it. The first of these is that belonging to the instant of illumination that figures so prominently in Peirce's account. To employ his lexicon, this is the moment of the "flash" that constitutes the "explanatory hypothesis" and yields a "new idea." The second prominent moment in abduction occurs when the new idea is successfully tested. This is a moment of seeing following verification. We might, then, refer to these two moments as "insight₁" and "insight₂". For Peirce, insight₁, while essential, is by itself incomplete. It shows the way, but it can provide reliable guidance only when combined with insight₂. Even then the hypothesis, now confirmed, remains in principle fallible and hence subject to falsification by experience. But this fact should provoke neither anxiety nor disappointment. It is for Peirce fanciful to imagine that a perfectly necessary alternative exists. It is the mark of wisdom and maturity not only to build an inventory of strongly probable (and thereby fruitful) hypotheses but also to become adept both at identification of additional candidates, and at their integration, following verification, with the preexisting store.

There are parallel moments of insight₁ and insight₂ in Polanyi's analysis of discovery. We saw already that illumination and verification are both among the formal steps of discovery. Polanyi's view of the two moments, or perspectives, is neatly captured in *Personal Knowledge*: "At that moment [of illumination] we have the vision of a solution

which *looks* right and which we are therefore confident [during verification] to *prove* right” (*PK*, 131).³⁰ *The Tacit Dimension*, with its emphasis on the act of integration, employs somewhat different language: “to see a problem is to see something that is hidden. It is to have an intimation of the coherence of hitherto not comprehended particulars” (*TD*, 21). Polanyi later adds, “we can have a tacit knowledge [or “fore-knowledge”] of yet undiscovered things” (23). The first moment, marked by insight₁, therefore consists of a distinctive form of comprehension. It is an “intimation” of something real. But, significantly, Polanyi declares, “To trust that a thing we know is real is... to feel that it has the independence and power for manifesting itself in yet unthought of ways in the future” (32). Verification, or the insight₂ of the second moment, is an instance of such manifestation. It is worth noting, moreover, that these manifestations, and thereby verification, carry on indefinitely into the future.

It thus appears that our attempt to locate Polanyi’s “illumination” in relation to Aristotelian induction leads into consideration of temporality as well as to the meaning of the real, matters that, for Polanyi, are intimately connected. Let us approach these subjects from the direction of Polanyi’s conception of his own enterprise, or of that of any pioneering discoverer. In *Personal Knowledge* he states,

I have described...the passionate preoccupation with a problem which alone can elicit discovery, and the protracted struggles against doubts of its significance and validity by which its announcement is often followed. Such a struggle, in which the ardour of discovery is transformed into a craving to convince, is clearly a process of verification in which the act of making sure of one’s own claims is coupled with the effort of getting them accepted by others (*PK*, 171).

Note in this admirably forthright statement the acknowledgement of the public dimension of knowing the truth. During the first moment of discovery (illumination qua insight₁), we not only believe we have seen something significant, we are at the same time possessed by a passion to demonstrate to ourselves that what we see is in fact real. Yielding to this passion consists of taking the steps that will eliminate our doubts. But, Polanyi stresses, a necessary part of eliminating my own doubts is showing to the satisfaction of those I respect that my discovery is real. That is, a critical part of eliminating my own doubts is eliminating theirs. The passage of time—the time required to show myself (and thereby others) that insight₁ is genuine—is *intrinsic to discovery*. Arriving at insight₂ is a necessary condition for the legitimization of insight₁.

This very process of verification over time is central to Polanyi’s understanding of the real. This was already suggested in our reference to page 32 of *The Tacit Dimension* where manifestations in the future confirm the reality of what we conceived in the past. Polanyi emphatically drives home the point by saying that something is “*most real*,

owing to the wider range of its yet unknown future manifestations” (*TD*, 61).³¹ Reality is future-oriented and so also must be our assessment of illumination.

We arrive at last at the point where it is possible to draw some conclusions. The primary of these, given the question with which we began, is that Polanyi’s “illumination” is not, and cannot be, autonomous in the sense definitive of Groarke’s Aristotelian induction. For Polanyi, illumination, or what we have come to know as “insight₁,” while of vital importance, is by its very nature incomplete. We have seen, however, that illumination consists of an inference, which is a discrete act. An inference may be executed more or less well, and with more or less acumen. Verification, the second moment for Polanyi and itself an inference, is not, as indicated by Groarke, superfluous. Rather, it is the completion (albeit, a provisional one) of the initial illumination. At the heart of Polanyi’s account of discovery is a profound respect for the initial insight. Indeed, he stands in awe before it, and much of what Polanyi does, both as a master practitioner and a philosopher of science, is directed toward stimulating in those that follow him the capacity for fruitful illumination. Such illumination is not autonomous “à la Groarke,” but it certainly possesses a significance and independence that entitles it to our greatest respect—perhaps more respect even than is extended to it by the deeply appreciative Peirce.

Groarke’s assignment of exclusive authority to the moment of illumination depends on a radically favorable appraisal of the present moment that is impossible for Polanyi. It is impossible because it is inconceivable. We have in this connection already spoken of the role of time in Polanyi’s process of discovery. More broadly, what we see in Polanyi and Peirce, and what is only incoherently present in Groarke, is recognition of the open-ended and intrinsically public nature of the experience of illumination.³² But incoherence on the part of Groarke is scarcely the central matter. More to the point, and more constructive, is Polanyi’s observation that the recognition attributed by Groarke to illumination never belongs exclusively to any particular individual and point in time. Rather, it belongs to a community over time—to the assembly of those who are committed to knowing about the matter under study.

This conclusion can be rendered in somewhat different terms as well. We saw at the outset that, for Groarke, “Confirmation plays an important role but it is logically *a posteriori*. It is not, initially, what makes us understand anything” (324). But what constitutes understanding? The response we find in Polanyi is that while understanding is indeed *personal*, it is not fundamentally *private*. The object of discovery and pursuit of its understanding are the concern of a community, and they receive their meaning from that concern.

Looking back at Groarke’s account of Aristotelian induction, what is perhaps most striking is its minimal preoccupation with the act of justification that for Polanyi is the central challenge in discovery. Students of Polanyi are well aware of the degree

to which he stresses the importance of faith and commitment. What our excursion into his conception of illumination reveals is that the primary function of faith and commitment is to sustain in the discoverer the vitality of his insight for the period of time required for it to be confirmed through the assent of relevant fellow explorers.

It is to be noted, however, that Polanyi's rejection of the autonomy of illumination is not equivalent to any demotion of what has been discovered in insight. In his description of illumination, Polanyi employs many of the very terms (a "principle" has been grasped, for example, and "reality" itself is revealed) used by Groarke. In their conception of what is at stake in discovery and understanding, Polanyi and Groarke converge. But in their grasp of these processes, viz., in regard to how and when they take place, they are worlds apart. This difference penetrates to the heart of Polanyi's enterprise. He holds in the highest esteem both illumination and verification—which is to say that his central focus forever remains on the *activity* of discovery and the *community* of explorers for which such discovery is a life's calling.

ENDNOTES

¹Michael Polanyi, *Personal Knowledge: Towards a Post-Critical Philosophy* (Chicago: The University of Chicago Press, 1962 [first published in 1958]), 123. Hereafter, references to this book will occur in the text and be designated by *PK*. In a revealing passage, Polanyi later in the book refers to the "discoverer's first excitement at the moment of Illumination" (172).

²Louis Groarke, *An Aristotelian Account of Induction: Creating Something from Nothing* (Montreal: McGill-Queen's University Press, 2009). Hereafter, references to this book will occur in the text.

³Peirce's logical theory evolved over his career. Abduction at an earlier time was referred to as "hypothesis" and, towards the end of his life, was typically called "retroduction." In our citations to his work, we will focus on his writings and lectures from 1901 onward, which can properly be regarded as representing his mature position.

⁴Charles Sanders Peirce, "On the Logic of Drawing History from Ancient Documents," in *The Essential Peirce*, vol. 2, edited by the Peirce Edition Project (Bloomington: Indiana University Press, 1998), 106-107.

⁵Peirce, "The Three Normative Sciences," in *ibid.*, 205.

⁶Peirce, "Pragmatism as the Logic of Abduction," in *ibid.*, 234.

⁷Peirce, "The Nature of Meaning," in *ibid.*, 216.

⁸Peirce, "Pragmatism as the Logic of Abduction," in *ibid.*, 227.

⁹*Ibid.*, 235.

¹⁰Cf. *The Tacit Dimension* (Gloucester, Mass: Peter Smith, 1983 [but based on lectures delivered in 1961 and 1962]), 25: "The anticipation of discovery, like discovery itself, may turn out to be a delusion." Hereafter, references to this book will occur in the text and be designated by *TD*.

¹¹"'Illumination' is then the leap by which the logical gap is crossed" (123). Cf. 130 and 367.

¹²See, for example, *TD*, 6.

¹³As we move more deeply into the study of Polanyi's logic, we are put on alert by William H. Poteat in his *Polanyian Meditations: In Search of a Post-Critical Logic* (Durham: Duke University Press, 1985) in which he speaks of "the ostensible philosophical dangers of Polanyi's dissident uses of the word 'logic'" and "a curious skewing of the uses of the word 'logic' by Polanyi" (35).

¹⁴"The Logic of Tacit Inference" in *Knowing and Being: Essays by Michael Polanyi*, edited by Marjorie Grene (Chicago: The University of Chicago Press, 1969), 155. The emphasis is Polanyi's. On 139 he refers to "the logic of discovery." Hereafter, references to this article will occur in the text and be designated by "LTI." Polanyi is careful to point out that the inference with which he is concerned consists of integration rather than deduction. See "Sense-Giving and Sense-Reading" in *Knowing and Being: Essays by Michael Polanyi*, edited by Marjorie Grene (Chicago: The University of Chicago Press, 1969), 194. Peirce surely would concur.

¹⁵*The Study of Man* (Chicago: The University of Chicago Press, 1959), 66. Hereafter, references to this book will occur in the text and be designated by "SM."

¹⁶Cf. *Personal Knowledge*, 106: "For the capacity for making discoveries is not a kind of gambler's luck. It depends on natural ability, fostered by training and guided by intellectual effort."

¹⁷Technically, of course, there is awareness here. But it is subsidiary in nature, and refers to elements whose integration makes illumination possible.

¹⁸The solitariness of the discoverer's mind, we will see, constitutes a problem. It is a challenge to be overcome.

¹⁹"On the Logic of Drawing History from Ancient Documents," 108.

²⁰"The Nature of Meaning," 217. See, too, 443 and 444.

²¹See, for example, "The Nature of Meaning," 224.

²²For example, see "On the Logic of Drawing History from Ancient Documents," 106 and 107.

²³See "Laws of Nature" in *The Essential Peirce*, vol. 2, 73. Peirce also speaks of "choosing" a hypothesis. See "On the Logic of Drawing History from Ancient Documents," 106.

²⁴See *ibid.*, 113. These rules are in large measure eminently practical (107). Cf. Chapter II of Polanyi, *Science, Faith and Society* (Chicago: The University of Chicago Press, 1964 [first published in 1946]), titled "'Authority and Conscience,'" especially 47ff.

²⁵"On the Logic of Drawing History from Ancient Documents," 114.

²⁶Peirce refers to the "step of adopting a hypothesis as being suggested by the facts" ("On the Logic of Drawing History from Ancient Documents," 95). But of course, facts themselves cannot "suggest" anything. The suggestion, which is to say, the emergence of the hypothesis and the subsequent impulse to accept and act in accordance with it, is the result of a *judgment* regarding those facts. What Peirce acknowledges just as much does Polanyi is the vital role of this judgment and the conditions making it possible and incumbent. Peirce goes on to formally identify the adoption of a hypothesis as abduction and then, importantly, adds, "*I reckon it as a form of inference*, however problematical the hypothesis may be held" (*ibid.*; emphasis added). The role of interpretation in perception (and hence abduction) is discussed in detail in "Pragmatism as the Logic of Abduction," 228-229.

²⁷Ibid., 233.

²⁸“The First Rule of Logic” in *The Essential Peirce*, vol. 2, 47.

²⁹“Life is too short to allow us to go on testing millions of false *H*'s [hypotheses] in order to hit on a true one. It is of the essence of the scientific method to select for verification hypotheses having a *high* chance of being true” (*PK*, 30). Note that, like Peirce, Polanyi speaks of the scientist *selecting* a hypothesis.

³⁰Both forms of insight are acknowledged (as “guessing” and verification, respectively) in *Science, Faith and Society* (Chicago: The University of Chicago Press, 1964 [first published in 1946]), 42. Of special note here is that Polanyi connects these matters to conscience and “personal judgment.”

³¹Cf. *Personal Knowledge*, 116-117. Peirce is explicit on this point: “The opinion which is fated to be ultimately agreed to by all who investigate is what we mean by truth, and the object represented in this opinion is the real” (from “How to Make Our Ideas Clear” in *The Essential Peirce*, vol. 1, ed. Nathan Houser and Christian Kloesel [Bloomington: Indiana University Press, 1992], 124-41, at 139).

³²Groarke's incoherence consists in the fact that as adamant as he is in asserting the exclusive authority of illumination, he is nearly as forceful in affirming the significance of subsequent verification: “Further confirmation, after the fact, may be a useful, even necessary tool; in complex cases, it confirms that we really know” (*AAI*, 367).

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The Polanyi Society supports an electronic discussion group that explores implications of the thought of Michael Polanyi. Anyone interested can join. To join yourself, go to the following address: http://groups.yahoo.com/group/polanyi_list/join. If you have difficulty, send an e-mail to James van Pelt (james.vanpelt@yale.edu) and someone will see that you are added to the list.

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