Tradition & Discovery

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The Polanyi Society

General Coordinator/Board President

Walter Gulick

Montana State University--Billings

Billings, MT 5910

(406)657-2904/WGulick@msubillings.edu

General Editor-Tradition & Discovery

Phil Mullins

Missouri Western State College St. Joseph, MO 64507

(816)271-4386/FAX (816)271-5987/

mullins@griffon.mwsc.edu

Book Review Editor

Walter Gulick

Montana State University--Billings

Billings, MT 59101

(406)657-2904/WGulick@msubillings.edu

Board Treasurer

Richard Gelwick 12 Prosser Rd.

Harpswell, ME 04079 (207)725-7975/rprogel@juno.com

Annual Meeting Chair/Board Secretary

Martin X. Moleski, S.J.

Canisus College

Buffalo, NY 14208 (716)888-2383FAX (716)886-6506

moleski@canisius.edu

Board of Directors

David Rutledge Department of Religion

Furman University

Greenville, SC 29613

David.Rutledge@furman.edu

Board of Directors

John Apczynski
Box 12/Saint Bonaventure University
St. Bonaventure, NY 14778
apczynski@sbu.edu

Representatives At Large

John C. Puddefoot Wall House/Slough Road Eton/Windsor Berks. SL4 6HD UK i.puddefoot@etoncollege.org.uk

Andy Sanders
Faculty of Theology
Nw. Kijk in 't Jatstraat 104
9712 St. Groningen
The Netherlands
a.f.sanders@theol.rug.nl

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Preface

At the November 2001 annual meeting of the Polanyi Society in Denver, there were two sessions on the thought of Philip Clayton. The programs put together by Philip Rolnick were cosponsored by the Religion and Science Group of the American Academy of Religion. Some of the material prepared for this meeting should eventually find its way into an issue of *TAD*. I am pleased to report that the discussion was lively and the sessions were better attended than any annual meeting sessions in the last several years. Review the plans for the November 2002 annual meeting on page 5: we will build upon last year's success and have a session on the work of Ursula Goodenough, a prominent cell biologist and religious naturalist whose writing reflects her interests in and sympathies with Polanyi. In addition to this session, there is a general call for papers for the second session.

In the business meeting of the November 2000 meeting, a motion was passed to raise the membership dues for the Polanyi Society to \$25/ year, beginning with the fall 2002 subscription. This is the first increase in several years. The rate is still very reasonable but the Society must address the rising cost of mailings.

In this issue, Tibor Frank's interesting essay discusses Michael Polanyi's experience in fleeing two countries; he situates this bit of history in the larger context of the wave of intellectual migrations of Hungarians in the political turmoil of the first half of the twentieth century. David Kettle's short comment is another addition to the dialogue, played out by George Hunsberger and Richard Gelwick over the last three issues, concerning the use of Polanyi's thought by Christian theologian Lesslie Newbigin. Mark T. Mitchell's essay outlines both the important similarities and distinctions between the ideas of Polanyi and Michael Oakeshott, a philosopher who wrote an appreciative early review of *Personal Knowledge*.

Phil Mullins

Tradition and Discovery is indexed selectively in The Philosopher's Index and Religion One: Periodicals. Book reviews are indexed in Index to Book Reviews in Religion.

NEWS AND NOTES

New Issue of Polanyiana

Polanyiana Vol. 10, No.1-2, 2001 has very recently been published. This issue includes some essay in Hungarian and some in English. All of the essays were originally materials prepared for the May 31, 2001 Jubilee Conference of the Michael Polanyi Liberal Philosophical Association and the Department of Philosophy and History of Sciences of Budapest University of Technological and Economic Sciences commemorating the 110th anniversary of Michael Polanyi's birth. There are English titles and abstracts for all essays. There is a full English text for the following essays:

Phil Mullins, "The 'Post-Critical' Symbol and the 'Post-Critical' Elements in Polanyi's Thought,"77-90.

Stefania Jha, "Neo-Polanyian Epistemology and Ethics," 91-102.

Tihamer Margitay, "The Freedom of Knowing," 103-107.

Tibor Frank, "Cohorting, Networking, Bonding: Michael Polanyi in Exile,"108-126.

Comments of Students of Ágoston Trefort High School, "Polanyi's Enviable Alma Mater," 127-136.

Vol 10, No. 1-2, 2001 should soon be available on the WWW, as are many past issues of *Polanyiana*; access is from the home page of *Polanyiana* (http://www.kfki.hu/chemonet/polanyi/index.html).

Other Recent Polanyi-Related Publications

Albert Bagood, "Il tempo filosofico-scientific nella preghiera," 2001, *Angelicum*, vol. 78, no. 1 143-159.

Albert Bagood, "Art and Science, Art in Science," 2001, *Angelicum*, vol. 78, no. 2, 283-309.

Struan Jacobs, 'Michael Polanyi, Tacit Cognitive Relativist', 2001, *The Heythrop Journal*, vol. 42, 463-479.

Struan Jacobs, 'Limits to Problem Solving in Science', 2001, *International Studies in the Philosophy of Science*, vol. 15, no. 3, 231-242.

Georg Hans Neuweg, 'Erfahrungslernen in der Lehrerlnnenbildung. Potenziale und Grenzen im Lichte des Dreyfus-Modells,' 1999, *Erziehung und Unterricht*, no. 5/6, 363-372.

Georg Hans Neuweg, 'Können und Wissen. Eine alltagssprachphilosophische Verhältnis bestimmung', Neuweg, Georg Hans (Ed.), Wissen - Können -Reflexion. Ausgewählte Verhältnisbestimmungen. (Innsbruck, Wien: Studienverlag, 2000), 65-82.

Georg Hans Neuweg, 'Mehr lernen, als man sagen kann: Konzepte und didaktische Perspektiven impliziten Lernens,' 2000, *Unterrichtswissenschaft* 28, no. 3, 198-218.

Georg Hans Neuweg, 'Das Können prüfen. Plädoyer für eine andere Prüfungsdidaktik,' 2001, *Grundlagen der Weiterbildung* 12, no. 5, 202-205.

Electronic Discussion List

The Polanyi Society supports an electronic discussion group exploring implications of the thought of Michael Polanyi. Anyone interested can subscribe; send e-mail to Struan Jacobs (swjacobs@deakin.edu.au) who is the moderator. The address for the list is polanyi-list@deakin.edu.au

2002 Polanyi Society Annual Meeting--Call for Papers

This year's annual meeting of the Polanyi Society will held in Toronto November 22 and November 23, 2002. As is usual, our meeting will be held as an "Additional Meeting" in conjunction with the annual meetings of the American Academy of Religion and the Society of Biblical Literature. Our request to the AAR is that again our Friday night session be from 9:00-11:00 p.m.and our Saturday morning session be from 9:00-11:30 a.m.

Ursula Goodenough, a well known cell biologist from Washington University in St. Louis, will be the featured speaker Friday night. Goodenough, author of *The Sacred Depths of Nature*, is a leading figure in the science and religion discussion. She has served as President of the American Society of Cell Biology and of the Institute on Religion in an Age of Science. Her current project is to illuminate the biological roots of morality. Her paper, which will be available on the Polanyi website in the fall, will report on her findings to date and indicate the contributions Polanyi's thought might make to her project. The Friday session, entitled "From Biology to Morality with Polanyian Footnotes," will include several respondents and good time for audience discussion. We hope that once again the AAR Science and Religion Group will co-sponsor the session.

Proposals are solicited for the Saturday session. A number of topics have been proposed, but we would be pleased to review submissions on any topic dealing in some way with Polanyi's thought. Here are some of the topics that have been suggested:

- (1) Polanyi and Philosophy of Biology
- (2) The Relationship of Personal Knowledge and Public Discussion
- (3) The History of Polanyi Studies
- (4) Michael and Karl Polanyi: A Comparison of Perspectives
- (5) Agency and Meaning in Polanyian Thought
- (6) A Polanyian Ethics?

All suggestions about organizing the Saturday session are welcome. Please send your proposals and comments by April 15, 2002 to :

Martin X. Moleski, SJ Department of Religious Studies Canisius College Buffalo, New York 14208 Telephone: (716) 888-2383 FAX: (716) 886-6506 moleski@canisius.edu

Cohorting, Networking, Bonding: Michael Polanyi in Exile*

Tibor Frank

ABSTRACT Key Words: Interwar anti-Semitism in Hungary and Germany, Hungarian scientists in exile, Weimar Germany, Berlin under Hitler, émigré intellectuals and professionals after 1933, international refugee organizations, bonding, cohorting, networking.

This paper presents Michael Polanyi's escape from Berlin to Manchester as part of a major wave of intellectual migration at the time of Hitler's rise in Germany in 1933. Many émigré scientists and social scientists from Hungary experienced forced and unexpected relocation twice in the interwar era: first in 1919-20, after the fall of the Bolshevik-type Hungarian Republic of Councils, and again after the Nazi takeover. Once in exile, they formed an unusually tight support group assisting each other by cohorting, networking, and bonding. Their group included a host of major refugee scientists, scholars, visual artists, musicians, men of letters, and public figures. The rich Hungarian contribution to German and, later, U.S. culture and civilization was, to a very great extent, the result of anti-Semitic policies and practices in Hungary after 1920 and in Germany after 1933.

Michael Polanyi was nurtured in the "happy peace times" of turn-of-the-century Europe. In a review of F. A. Hayek's *The Road to Serfdom*, he fondly remembered the "good old days" when

before 1914 you could travel across all the countries of Europe without a passport and settle down in any place you pleased without a permit. The measure of political tolerance which commonly prevailed in those days can be best assessed by remembering local conditions which at the time were considered as exceptionally bad. The domineering and capricious personal régime of Wilhelm II was widely resented, even though it allowed, for example, the popular satirical paper, *Simplicissimus*, regularly to print the most biting cartoons, jokes and verse directed against the Kaiser. Europe shuddered at the horrors of Tsarist oppression, though under it Tolstoy could continue to attack from his country seat in Yasnaya Polyana with complete impunity the Tsar and the Holy Synod, and persistently preach disobedience against the fundamental laws of the State... After less than a generation, say in 1935, we find that all the freedom and tolerance which only a few years earlier had been so confidently taken for granted, has vanished over the main parts of Europe.¹

After World War I, the situation fundamentally and dramatically changed, particularly for Polanyi's generation. New borders were established, cutting across the continent of Europe. Through much of the post-World War I era, Hungarian Jews were repeatedly in trouble. Groups of them were forced to leave their native country after 1919, Germany after 1933, and Europe after 1938, just to mention a few major turning points in European history.

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^{*} This essay also is included in the current *Polanyiana* (Vol. 10, No. 1-2, 2001), pp. 108-126.

From Budapest to Berlin

Networking, using available contacts and relying on people already established, was among the most natural methods used to secure a place somewhere abroad, and particularly in Germany. A lot of people needed help and this induced a veritable "chain reaction" of migrations.

The situation became extremely difficult during World War I. When in 1916 Michael Polanyi inquired about his own prospects for a *Habilitation* under Professor G. Bredig at the Institute for Physical Chemistry and Electrical Chemistry of the University of Karlsruhe, he was politely turned down.

We are compelled, now after the War [has started] more than ever before, to take into account the public opinion which urges us to fill in the available places for *Dozenten* by citizens of the *Reich* as much as possible. Even though we like to treat the citizens of our Allies the same way as our own, you must have seen in my Institute that the situation was pushed so strongly in favor of them, that as of now, and more than ever before, I must see to attracting more Imperial Germans.²

A year later, Polanyi tried Munich and turned to Professor K. Fajans in what was then the Chemical Laboratory of the Bavarian State. Though his request was well received there and an offer was made to become an assistant to Dr. Fajans, Polanyi's German plans did not materialize until after the War.³

An assistant to Georg de Hevesy during the Hungarian (Soviet) Republic of Council—a Bolshevik experiment that lasted through the Summer of 1919—Polanyi left Budapest at the end of 1919 and went to Karlsruhe where he had already studied chemistry from 1913-14.⁴ Polányi was searching for a good job in Physical Chemistry. Seeking advice in regard to his future employment in Germany, he turned to Theodore von Kármán, a fellow-Hungarian and a distinguished Professor of Aerodynamics in Aachen, Germany.

Young Michael Polányi's questions to von Kármán were answered politely but with caution.

The mood at the universities is for the moment most unsuitable for foreigners, though this may change in some years; also, an individual case should never be dealt with by the general principles. ... To get an assistantship is in my mind not very difficult and I am happily prepared to eventually intervene on your behalf, as far as my acquaintance with chemists and physical chemists reaches. I ask you therefore to let me know if you hear about any vacancy and I will immediately write in your interest to the gentlemen concerned.⁵

After the War ended, the prospects for Hungarians in defeated Germany naturally got even worse. From 1920 on, Von Kármán helped a number of Hungarians start their careers in Germany, readily sponsoring friends of his family, often under the most adverse circumstances.⁶ Several years later, in 1923, American visiting scholar Eric R. Jette described the German university scene in remarkably similar terms:

conditions in the universities were very bad, of course, in all places. The same story was heard everywhere, no money, no new professors or docents but laboratories filled with

students who had almost nothing to live on. Yet the research goes on and the students still keep at their books.⁷

In little over a year, however, Jette received better news from Werner Heisenberg who "said that while the university people were not as well off as before the war, they were infinitely better situated than a year ago."

Nevertheless, Hungarians were difficult to turn down. The future engineering professor Mihály Freund asked for Polanyi's assistance for a young relative, Tibor Bányai, who had just finished high school in Budapest and wanted to become an engineer at the University of Karlsruhe, where Polanyi had been active for some time. More importantly, in 1922 Polanyi paved the way for several people from Hungary to get a job. The most important cases were those of Leo Szilard and Imre Brody. Szilard tried to get an assistant's job at the Institute of Physical Chemistry at the University of Frankfurt am Main. Szilard, of course, was well on his way to becoming a scientist in his own right. The degree he just received in Berlin under Max von Laue was the best letter of recommendation he could possibly present. Yet, under the circumstances, he did need Polanyi's letter to Frankfurt professor B. Lorenz and Polanyi referred to Szilard as a "wonderfully smart man."

In a letter written to Albert Einstein, Polanyi also supported physicist Imre Brody in 1922. In this important document Polanyi asked Einstein to write to the new leaders of Robert Millikan's newly founded institute in Pasadena, CA so that Brody could get a job as an assistant.¹⁰

Of all the Hungarian scientists, however, Theodore Von Kármán proved to be the most active and successful contact person whose German and subsequent U.S. correspondence provides a wealth of information on half a century of Hungarian networking. A typical letter from his German period was sent in 1924, by a Hungarian friend in Vienna, asking for his assistance with Hungarian chemical engineering student Pál Acél to continue his studies "in Germany, preferably under you." Correspondence on these matters sometimes had to be clandestine: in dangerous years such as 1920, a reply to such mail was better sent to Vienna, rather than Budapest, and picked up there personally. 12

Students continued to try to study in Germany for several reasons, one of them being the commitment of the German professors to their gifted students and the great deal of time and interest they allotted to young people.

Professor Lipót Fejér asked fellow mathematician Gábor SzegŒ in Berlin in early 1922: "What does little Johnny Neumann do? Please let me know what impact do you notice so far of his Berlin stay." In an 1929 interview, Michael Polanyi, since early 1923 a *habilitierter* Berlin professor himself, proudly yet sadly described the essential difference between the contemporary Hungarian and German educational scenes declaring that "professors in Germany grab with avid interest the hand of any student considered to be gifted. They are like the art-collector whose utmost passion is to discover talent. This is part of the profession of a university professor." It is important to note that his generation shared essentially the same experience later in U. S. universities: for *émigré* scholars and scientists, the welcoming atmosphere of German universities was happily rediscovered in, and partly transferred to, the United States.

One of the outstanding qualities of the post-World War I German environment was tolerance—political, religious, professional, and artistic. People, professions, ideas, and artistic products persecuted at

home in Hungary were welcome in the open atmosphere of Weimar Germany. Béla Bartók's pioneering ballet *The Miraculous Mandarin*, rejected and scorned in Hungary, found a sympathetic audience in Cologne, albeit for a single night only, where Hungarian-born Eugen Szenkár performed it for the first time in 1926.¹⁶

Moving to Germany was not only a question of survival in terms of studies, jobs, and promotions: it also meant an opportunity to resume one's original professional activities or intellectual directions. It was not merely the acquisition of a new address: it led to the reconstruction of spiritual (and often bodily) health, the realization of the self, a restoration of the mind.

'Incipit Hitler:'17 Rescue Operations

The international community of scientists and scholars showed a great deal of compassion for those being threatened by Hitler. They supported emigrating colleagues from Germany by providing the necessary organizational framework and material assistance, ¹⁸ providing for some 6000 highly qualified professionals to leave Germany in quick succession. ¹⁹ A number of parallel initiatives emerged to bring about an effective framework for rescuing the community of German-Jewish scientists. Headquartered in Zürich, Switzerland, the *Notgemeinschaft Deutscher Wissenschaftler im Ausland* [Emergency Society of German Scholars Abroad] was founded largely as a result of the efforts of a Hungarian-born scientist. "Professor Philip Schwartz," wrote Lord Beveridge in his *A Defence of Free Learning*.

Hungarian by birth but holding a Chair of General Pathology and Pathological Anatomy at Frankfurt-am-Main in Germany, [Schwartz] was an immediate victim of Hitler's racial persecution and went in March 1933 to Zürich in Switzerland. There he founded at once the *Notgemeinschaft* and directed it for six months. ... For money it had to depend almost wholly on contributions from displaced scholars whom it had helped to re-establish. But by its personal knowledge of the scholars themselves and by using its contacts with universities everywhere, it [the *Notgemeinschaft*] rendered invaluable service, ²⁰ providing a list of nearly 1500 names of dismissed academics in Germany, which was published in 1936 with the assistance of the Rockefeller Foundation. ²¹

The first major success of the *Notgemeinschaft* was an agreement with the Turkish government to place 33 German professors at the University of Istanbul. Similar arrangements were discussed with Australian, Indian, South African, Soviet and U. S. authorities as well as with the Committee for Intellectual Cooperation of the League of Nations.

In May 1933, scientists in Great Britain established the *Academic Assistance Council* (first conceived as the International Board of Scientists and Scholars) with Nobel Laureate Lord Rutherford as President and Sir William [later Lord] Beveridge and Professor C. S. Gibson as Secretaries.²² A few weeks later the *Emergency Committee in Aid of Displaced German* (later *Foreign*) *Scholars* was established as the American counterpart of the AAC to provide grants or fellowships to immigrant scientists and scholars.²³ The main contributions to the Emergency Committee funds came from Jewish foundations and individuals.²⁴

Another support committee, the *Comité International pour la Placement des Intellectuels Réfugiés* was formed in Geneva, offering positions to refugee professors from Austria, Germany, and Italy.²⁵

Jewish groups in Europe considered raising funds for a new university based on refugee faculty alone, an idea that originated in the mind of Albert Einstein who envisaged a *Flüchtlingsuniversität*, a refugee or emigrant university somewhere in Europe.²⁶ A longtime and valued colleague, Leo Szilard was able to convince Einstein "that this would not be an easy task," and that he should "concentrate on one promising effort."²⁷ This is how Einstein started to support the idea of the Academic Assistance Council. Another suggestion was to raise more money for the Palestine University.²⁸ Immediately after the recession, however, there was not enough money for any of these projects to materialize. Instead, several agencies provided relief of some sort, such as the *Jewish Relief Committee* in Amsterdam.

The academic community in the United States was horrified to learn of what was happening in Germany. German-born Franz Boas was one of the first to receive an authentic report from Benjamin Liebowitz who travelled throughout Europe collecting information and helping plan relief operations. "It is impossible to describe the utter despair of all classes of Jews in Germany," he wrote in early May 1933 to Boas. "The thoroughness with which they are being hunted out and stopped short in their careers is appalling. Unless help comes from the outside, there is no outlook for thousands, perhaps hundreds of thousands, except starvation or the sleeping pill. It is a gigantic 'cold' pogrom. And it is not only against Jews; Communists, of course, are included, but are not singled out racially; social democrats and liberals generally are coming under the ban, especially if they protest in the least against the Nazi movement. Please note that I am not speaking from hearsay: I know people, friends in many classes - scientists, scholars, doctors, lawyers, business men, economists, etc." Ultimately, some 6000 displaced scholars and professional persons from Europe applied to the New York-based Emergency Committee, out of which 335 were granted assistance. Hungarians applying for (and eventually receiving) grants or fellowships either left Germany in 1933-34 (I), or left Hungary after anti-Semitic legislation was introduced there in 1938-41 (II). The incomplete list of indisputably Hungarian names includes:

- I Ladislaus (László) Farkas Melchior (Menyhért) Pályi Otto Szász Gabriel (Gábor) SzegŒ Leo Szilárd Edward (Ede) Teller Paul (Pál) Neményi Imre Weisz
- II DezsŒ Rapaport
 Stephan Sárközi de Somogyi-Schill
 Egon Wellesz
 George Pólya
 Nelly Szent-Györgyi
 Ladislas (László) Tisza
 Charles de Tolnay
 Rusztem Vámbéry

The following Hungarians applied for aid to the Emergency Committee but were refused:

- I Willy (Vilmos) Fellner
 A. B. Halasi
 Friedrich (Frigyes) Antal
- II Elizabeth M. Hajós
 Michael Erdélyi
 Francis (Ferenc) de KŒrösy
 Eugene (JenŒ) Lukács
 Elemér Balogh
 Zoltán Fekete
 Imre Ferenczi
 Béla Frank
 Nicholas (Miklós) Halász
 Péter Havas
 Hugo Ignotus
 Aurél Thomas Kolnai
 René Fueloep [Fülöp]-Miller
 Béla Bartók

Altogether some 65 Hungarians appear on the applicant lists of the New York Emergency Committee. They were almost exclusively Jewish-Hungarian and left the country, directly or indirectly, for the U. S., because they were Jewish. The greater part of these left Hungary after the institution of the anti-Semitic laws of Hungary between 1938-41. A sizable group, however, had already left in, or right after, 1933, through Germany. Even the small sample of people who turned to the Emergency Committee demonstrates that many who were registered as German when the 1933 exodus started were, in fact, immigrants to Germany from Hungary. Their list included scientists Leo Szilard and Edward Teller as well as mathematicians Otto Szász and Gábor SzegŒ.³²

Hungarians had a particular sensitivity to the emergency situation in Germany because of a strong sense of *déja-vu*. The rise of anti-Semitism and anti-foreignism, as well as the persecution and threat they were subjected to in Germany was strongly reminiscent of the Hungarian ordeal of 1919-20. As is well-known, the 1919-20 emigration from Hungary to Germany was due to anti-Semitic legislation and other action of the Hungarian government. This created a sensitivity which made some of the Hungarians in Germany extremely active and successful leaders of the rescue operations that saved the lives and careers of several thousand scientists and scholars in Germany.

The Escape of Michael Polanyi

Michael Polanyi was offered an opportunity to leave Germany before the Nazi takeover. In early 1932, the University of Manchester in Great Britain invited him to become professor of physical chemistry. Polanyi hesitated to leave Germany, "where I am rooted with the greater part of my being." He also felt that

it was unfair to leave Germany when it was in such a difficult situation. "I am unwilling to leave a community which is currently in difficulty after sharing the good times earlier," he answered to Professor Lapworth in Manchester. Nevertheless, he started to make inquiries into the situation at the University of Manchester and established a large set of preconditions in case he decided to come. He demanded that a new laboratory consisting of a suite of 8-10 rooms be built for him for the considerable sum of £20-25,000, equipped with apparatus costing £10,000 and complete with 8-10 "personal collaborators" to work with.³⁴

The University of Manchester turned to the Rockefeller Foundation to support Polanyi's new physical chemical laboratories, but was determined to go ahead with the plans itself even before the Foundation responded. Throughout the year 1932, intensive planning was carried out to prepare the venture and in mid-December, Vice-Chancellor Walter H. Moberly sent a formal invitation to Polanyi to take the Chair of Physical Chemistry at Manchester for an annual stipend of £1500.³⁵ As late as Christmas 1932, the University was in the midst of planning to erect the new building "as quickly as possible" so that it comply "fully with the requirements of yourself and Professor Lapworth."

By mid-January 1933, Polanyi came to the conclusion that he would not go to Britain. Two weeks before Hitler's takeover, he declined to accept the invitation to Manchester citing his unwillingness to settle for good in Manchester, as well as the poor climatic conditions of the area as his main reasons.³⁷ Though at first he believed that his military service during World War I would make him exempt from the early anti-Semitic legislation of the Third Reich and would leave him secure in his position at the University, he realized within weeks the gravity of his mistake. He indicated to his British friends that he had changed his mind and was now ready "to accept the chair in Manchester on any conditions that are considered fair and reasonable by the University, in consideration of the changes that have occurred since [...] January."38 It was almost too late: Manchester had in the meantime invited an organic chemist, and though a modest invitation was in fact extended to Polanyi as a third professor, "the University could not give a salary of more than £1250, and as they have in the meantime embarked on other projects as capital expenditure, they would not be able to embark on the proposed new laboratory for at least two or three years."³⁹ Also, an invitation in early May 1933 to take a Research Professorship in Physical Chemistry at the Carnegie Institute of Technology in Pittsburgh, Pennsylvania, came again too late: by then Polanyi, well known in the United States from Princeton to Minnesota, had made his arrangements to go to England. 40 On April 26, 1933 the Neues Wiener Abendblatt reported the resignation of Professor Polanyi in Berlin; on July 14 The Manchester Guardian announced his invitation to the Chair of Physical Chemistry at the University of Manchester.⁴¹

It is important to observe closely Polanyi's hesitation to relocate to Manchester in 1932-33. For people like Polanyi, deeply rooted in the ideas and ideals of 19th century liberalism, with a tolerant vision of the world and of science, it was difficult to accept the reality of the brutal and manipulative forces of interwar totalitarian systems. He belonged to a generation of scientists which, for the first time in human history, had to witness, and were consequently shocked by, the misuse of science for terrifying autocratic purposes. Polanyi first noticed these threats to freedom in the Soviet Union where he had paid well documented visits in 1930, 1932 and 1935. According to a note in his *Personal Knowledge*, he met with Bukharin, who had even personally tried to convince him "that pure science, as distinct from technology, can exist only in a class society." In due course the director of the Institute of Physical Chemistry in Leningrad, the prospective Nobel Laureate Nikolai N. Semenov, offered a department to Polanyi in his institute; Polanyi declined the job but consented to come to Leningrad for regular consultations (for six weeks twice a year). At this point,

around 1932, Michael Polanyi came to accept the opinion of his brother who was, right then, very critical of what went on in Stalin's country and, as Karl reported happily to their mother, they reached an understanding as to "our views of the Soviet Union that were dividing us for such a long time [and] now considerably coincide."

It was at this junction that Polanyi was forced to understand the potential threat of a political change in Germany as well. Almost until it was too late, he had believed in the strength and survival of all the tolerant and liberal political and social values of Weimar Germany and found a right wing takeover unlikely. Polanyi was not alone in his misjudgement: as late as January 1933 the operetta *Ball im Savoy* by Hungarian Berliner Paul Abraham was played with enormous success in Berlin and sung by Hungarian stars Gitta Alpár and Rózsi Bársony — a composer and two singers who, within a matter of a few weeks, had no place in Hitler's Germany officially turned anti-Semitic. Fairly recent films like *Cabaret, Mephisto*, or *Julia*, or the short stories of British author Christopher Isherwood chronicled the breathtaking immediacy of change from Weimar to Nazi Germany. Living the sheltered life of a Berlin University professor, Polanyi, with many other refugee foreigners as well as Germans, was in fact both unprepared and unwilling to realize the dangers of an eventual Nazi dictatorship. He received ample warning: already in the Summer of 1932, friends urged him to give up his naiveté as to the chances of preserving the political situation in Germany. "If we lift our leg we must put it down somewhere, forwards or backwards, right or left!" —he was urged by a friend of the family.

Radical shifts in the German political scene seem to have represented a much more fundamental shock for Polanyi than totalitarian symptoms in the Soviet Union. For liberal, often left-wing émigré intellectuals and professionals from post-War Hungary, it was a painful and threatening experience to realize that the country which throughout the 1920s had proved to be a lasting shelter, was now about to stop serving as a political asylum: Weimar Germany was being rapidly transformed into the terrorizing Third Reich. It was almost unfathomable that the freedom of Europe he had experienced as a young man was gone.

That Polanyi's philosophical inquiries grew out of not only his scientific investigations but, to a great extent, the political drama he witnessed in Germany as well as in the Soviet Union, was clearly indicated in his 1933 correspondence with Eugene Wigner who reflected on his friend's concerns as to the purpose of science. It was the twin experience of Soviet-Russian and Nazi-German totalitarianism, a shock for Polanyi's entire generation,⁴⁷ that ultimately forced him to accept asylum in England. Fully understanding in 1934 the nature of forces threatening his freedom, and the freedom of science in general, he started to make a "Copernican turn," changing not only his country of residence but also his language and, in due course, his field of research. In this sense, Polanyi chose a very special, complex form of emigration: first he left medicine, then Hungary and the Hungarian language, then he left Germany for Britain, as well as science for philosophy, and chose English rather than German as an exclusive language of publication. It was due to this enormous change that he felt compelled to try repeatedly to define and understand the social position of knowledge and science. Throughout his long journey from the "peace" of pre-World War I Hungary through Weimar Germany and into England, Polanyi pursued democracy and a liberal scientific atmosphere, broadening at the same time his own intellectual horizon, from a narrower scientific discipline, towards a philosophy of knowledge that was to become sensitive to both ethical and political issues. "I must admit," Wigner wrote to Polanyi from Budapest,

that the difficulties that I felt so acutely in Berlin are somewhat blurred here. It is so difficult to speak of these things—I think we are afraid that we may come to a 'false', i.e. unpleasant

result. We have all gone through these questions at the age of 18 and had to give them up as insoluble, and then we have forgotten them. At our age when one is no longer geared so very much towards success, it is more difficult to do so. It seems to be an undertaking of ridiculous courage to be willing to question whether or not all that we have lived for, culture, righteousness, science, has a purpose. ... I know that you have been dealing with these thoughts for a long time. ... Even if the basic problem is insoluble, when the purpose of science is concerned particularly, ... the answer must contain the basic questions.⁴⁸

Polanyi's combined inquiries as a scientist and a philosopher resulted ultimately in the 1951-52 Gifford Lectures at the University of Aderdeen in Scotland which served as the basis of his celebrated *Personal Knowledge*. ⁴⁹ Becoming a philosopher seems to have been Polanyi's way out of the frustrations that he faced as a scientist.

The Anatomy of Networking: American Patterns

Bonding, networking, cohorting within and, less often, between various factions of the Hungarian exile community became more intense than ever during the War years, all of which was abundantly documented by the correspondence of that group.

Understanding the nature of networking is essential to appreciating the social structure of immigrant groups and their ties to prospective newcomers. Because the bulk of the U. S. Immigration Quota was earmarked by preferences for one sort of immigrant or another, and non-quota emigration was greatly dependent upon letters of recommendation, affidavits and invitations from fellow nationals who had become U. S. citizens, the social composition of the exile community was virtually self-perpetuating.⁵⁰ Because of this, there was very little chance to incorporate new elements or groups. Farming areas welcomed prospective farmers, professionals attracted fellow professionals, Gentiles invited Gentiles, and Jews welcomed Jews. Thus, American immigration policies, especially during the long period between 1924 and 1965, contributed to the growth and stable characteristics of existing social patterns in the immigrant communities. Even though we have had access to a limited number and type of sources regarding this information, based on the private papers of Jewish-Hungarian scientists and other professionals, this observation seems valid. Statistical evidence regarding all U. S. immigrant visas issued, including enclosed personal material, still needs to be examined. Nonetheless, it may prove enlightening to survey some case studies which have become available.

Jewish-Hungarians were first warned of the increasing Nazi danger by the *Anschluss* of neighboring Austria by Germany. As the small Hungarian quota was entirely filled for years ahead, immigration into the U. S. seemed possible only for scientists who had received an invitation to a particular university or research institute. Thus, many scientists embarked on a desperate struggle to obtain invitations. "I beg you to give me your assistance in this difficult situation," pleaded the eminent Viennese-Hungarian mycologist József Szücs to potential employers through his mentor, Theodore von Kármán, who was one of the most willing supporters of refugee scientists. ⁵¹ Also begging for Von Kármán's support was a young aeronautical engineer, Miklós Hoff from Budapest, who himself did receive his first U. S. job, as an instructor in Brooklyn, through Von Kármán. ⁵² Vilmos Szilasi explained to his cousin Theodore von Kármán that the letter of affidavit should make it very clear that "you knew me since our childhood and give the explicit assurance, that my immigration would not be inimical to the interest of the United States" and "that you assume the responsibility of keeping yourself

informed of my conduct in the U. S. as well as immediately reporting to the Department of Justice any irregularity in my activities."53

An invitation by itself was not enough: appointments to a particular job had to be for at least two years. When Professor Gábor Szeg@ secured sufficient funds to invite for a year to Stanford his longtime associate and friend, the distinguished mathematician George Pólya from Switzerland, "the American Consul in Zurich refused to admit him on non-quota basis because of the temporary character of the appointment." In a desperate attempt to get his friend out of Europe, Szeg@ turned to Von Kármán to secure an additional invitation for Pólya from CalTech. "You understand that although Pólya is not in a concentration camp and not yet dismissed, his situation is very dangerous and he tries desperately to get out before it is too late," Szeg@ wrote to Von Kármán. It is not necessary to stress how urgent the case is. Every day may bring new restrictions and difficulties." The Pólyas left Zurich via Portugal for the U. S. in 1940 where Pólya ultimately succeeded in obtaining a two year teaching position at Brown University and Smith College before joining the Stanford Faculty in 1942, to remain there until the end of his very long life. The specific program of the stanford Faculty in 1942, to remain there until the end of his very long life.

The noted Budapest lung and TB specialist Gyula Holló, a member of the Polányi family and a personal physician of Béla Bartók, DezsŒ Kosztolányi, Frigyes Karinthy and Joseph Szigeti, turned to his former patient John von Neumann to support him

by drawing the attention of some influential person who could help me to get a job or an invitation or give instructions through the State Department to the Consulate in Budapest so that I get a non-quota place (which is not unprecedented) or, and this seems to be the most realistic idea, prepares the way and helps me if I come as a visitor searching for a job personally.⁵⁸

Dr. Holló succeeded in getting out of Hungary and accepted a position at Goldwater Memorial Hospital and died in New York City in 1973.⁵⁹

As the War came nearer to Hungary, the non-quota contingent became filled for years ahead, mostly by pure and applied scientists, medical doctors and mathematicians. Yet, many did not succeed in getting an invitation. The celebrated Budapest surgeon, Professor Lajos Ádám was told that the Mayo Clinic in Rochester, Minnesota would not extend an invitation although Dr. C. W. Mayo counted him "as one of my very good friends." Ádám's well-known and well-connected Hungarian-American protector, the journalist and author Emil Lengyel, was told that "we are up against conditions here at present which make it impossible for us to guarantee bringing him here as a Professor or to guarantee any salary." Ádám stayed in Budapest and fortunately survived the War.

In the meantime, many non-scientists managed to get out. Refugees included many people from the world of film and theater, entertainers, literary people, actors, directors and musicians. In early 1940, Von Kármán had the distinct impression that "New York and Los Angeles are full of newcomers from Budapest, but almost exclusively artists, actors, and writers. Certainly more than half of the [production of] music and literature is now in the United States," he commented to a friend in Hungary. Much later, in the 1950s, Michael Polanyi himself sought to move to the University of Chicago, but because of his own affiliations as well as his brother's leftist political entanglement in pre-World War I Hungary, he was denied a visa to enter the United States during the McCarthy era.

For people naturally dependent upon their native language and culture, immigration was merely the lesser of two evils. It may have saved their life but, in many cases, emigration nonetheless turned out tragically, leaving them in despair and isolation, without any sense of meaningful social bonds and purposes.

Conclusion

The close cooperation of Hungarian émigré scientists and scholars at times of trouble and need brought about a rather strong and durable exile community, international in nature and very personal in character. The remarkable presence of Hungarian scientists and scholars, artists and authors, musicians and film people on the international intellectual and professional scene at large is partly an outgrowth of what I'd prefer to call the chain reaction of support that ran across generations, professions, race and, at times, gender. The intimate bonds of the home community were imported to and reestablished on the broader stage of the world. In a strange new sense, the personal ties with fellow-Hungarians contributed to the strong international presence and success of Hungarian professionals as a virtual community abroad. Building this virtual community created a strong representation of scientific and scholarly Hungary in exile.

Only a thorough comparative research can determine how far the Hungarian case differed from other international examples. But it is safe to say in conclusion that networking, cohorting, and personal friendship did certainly contribute to what Laura Fermi and others in her footsteps called "The Mystery of Hungarian talent," the enormous intellectual contribution and success of Hungarians worldwide. Certainly it is worth giving more attention to this relatively neglected dimension of the social condition of science and scholarship. ⁶³

Endnotes

- ¹ Michael Polanyi, "The Socialist Error," *The Spectator*, March 31, 1944.
- ²G. Bredig to Michael Polanyi, Karlsruhe, February 12, 1917. (German) Michael Polanyi Papers, Box 1, Folder 5, Department of Special Collections, University of Chicago Library, Chicago, Ill. This and succeeding quotations from the archival material at the University of Chicago Library is used with permission.
- ³ K. Fajans to Michael Polanyi, München, June 26 and October 5, 1918. (German) Michael Polanyi Papers, Box 1, Folder 5, Department of Special Collections, University of Chicago Library, Chicago, Ill.
 - 4 Ibid.
- ⁵ Theodore von Kármán to Michael Polányi, Aachen, March 17, 1920, University of Chicago, Joseph Regenstein Library, Special Collections, Michael Polányi Papers, Box 17.
- ⁶ Cf. e.g. the case of the son of his brother's friend Michael Becz, see Elemér Kármán to Theodore von Kármán, Budapest, May 9, 1920 (German), Theodore von Kármán Papers, File 139.1, California Institute of Technology Archives, Pasadena, CA.
- ⁷ Eric R. Jette to Michael Polanyi, Up[p]sala, February 10, 1923, Michael Polanyi Papers, Box 1, Folder 19, Department of Special Collections, University of Chicago Library, Chicago, Ill.

- ⁸ Eric R. Jette to Michael Polanyi, Copenhagen, March 28, 1924, Michael Polanyi Papers, Box 2, Folder 1, Department of Special Collections, University of Chicago Library, Chicago, Ill.
- ⁹ Michael Polanyi to B. Lorenz, October 16, 1922. (German) Michael Polanyi Papers, Box 1, Folder 18, Department of Special Collections, University of Chicago Library, Chicago, Ill.
- ¹⁰ Michael Polanyi to Albert Einstein, March 14, 1922. (German) Michael Polanyi Papers, Box 1, Folder 17, Department of Special Collections, University of Chicago Library, Chicago, Ill.
- $^{11} Elem\'er \, Sz\'ekely \, to \, Theodore \, von \, K\'arm\'an, Wien, April \, 29, 1924. \, (Hungarian) \, Theodore \, von \, K\'arm\'an \, Papers, File \, 29.14, California \, Institute \, of \, Technology \, Archives, Pasadena, CA.$
- 12 Mihály Freund to Michael Polanyi, May 4, 1920. (Hungarian) Michael Polanyi Papers, Box 17, Department of Special Collections, University of Chicago Library, Chicago, Ill.
- ¹³ Gábor SzegŒ Papers, SC 323, Boxes 85-036, Department of Special Collections and University Archives, Stanford University Libraries, Stanford, CA.
- ¹⁴ Obersekretär Breuder [?], Technische Hochschule zu Berlin, to Michael Polanyi, Charlottenburg, November 8, 1923. (German) Michael Polanyi Papers, Box 1, Folder 20, Department of Special Collections, University of Chicago Library, Chicago, Ill.
 - ¹⁵ "Polányi Mihály Nádas Sándorhoz," *Pesti Futár*, 1929, pp. 37-38.; repr. <u>in</u> *Polanyiana*, I/1, 1991, p. 26.
- ¹⁶ József Ujfalussy, *Béla Bartók* (Budapest: Corvina, 1971), pp. 237-240; György Kroó, *A Guide to Bartók* (Budapest: Corvina, 1974), pp. 97-105. The ballet was not tolerated even in Cologne, where the conservative mayor of the city, Konrad Adenauer stopped the production.
- ¹⁷ Stefan Zweig, *Die Welt von Gestern. Erinnerungen eines Europäers* (Fischer Taschenbuch Verlag GmbH, 1994), p. 411.
- ¹⁸For a well-written general survey of international efforts to rescue immigrant scientists and scholars from Germany see Laura Fermi, *Illustrious Immigrants: The Intellectual Migration from Europe 1930-41* (Chicago and London: University of Chicago Press, 1968), Chapter IV: The Roads to America, pp. 60-92.
- ¹⁹ Cf. Herbert A. Strauss and Werner Röder, eds., *International Biographical Dictionary of Central European Emigrés 1933-1945*, (München-New York-London-Paris: K.G. Saur, 1983), Vols. I-III.
- ²⁰Lord Beveridge, *A Defence of Free Learning* (London-New York-Toronto: Oxford University Press, 1959), pp. 128-129.
 - ²¹ Laura Fermi, *Illustrious Immigrants. op. cit.*, p. 62.
- ²² Lord Beveridge, op. cit., p. 2; Leo Szilard to Jacques Errera, London, June 4, 1933 (German), Leo Szilard Papers, Box 7, Folder 22; Benjamin Liebowitz to Ernst P. Boas, London, May 4, 1933, Leo Szilard Papers, Box 12, Folder 4, Mandeville Department of Special Collections, University of California, San Diego Library, La Jolla, CA. The Council remained in existence until 1966, as the Society for the Protection of Science and Learning. Cf. Leo Szilard to unknown, May 14, 1933, Leo Szilard Papers, Box 12, Folder 21, Mandeville Department of Special Collections, University of California, San Diego Library, La Jolla, CA; Robin E. Rider, "Alarm and Opportunity: Emigration of mathematicians and Physicists to Britain and the

- United States, 1933-1965," Historical Studies in the Physical Sciences, Vol. 15, Part I (1986), pp. 107-176.
- ²³ Lord Beveridge, *op. cit.*, pp. 126-127; Karl Brandt Circular, New York, February 1, 1934 (German), John von Neumann Papers, Box 7, "1933: Some very interesting letters to J. v. N.," Library of Congress, Washington, D.C. For details on the two institutions see Robin Rider, "Alarm and Opportunity," *op. cit.*, esp. pp. 116, 139.
 - ²⁴ Robin Rider, "Alarm and Opportunity," op. cit., p. 144. Cf. Lord Beveridge, op. cit., pp. 15, 126.
 - ²⁵ Laura Fermi, *Illustrious Immigrants*, op. cit., pp. 62-63.
- ²⁶ Albert Einstein to Leo Szilard, Le Coq-sur-Mer, April 25 and May 1, 1933; Leo Szilard to Albert Einstein, London, May 4 and 9, 1933 (German), Leo Szilard Papers, Box 7, Folder 27, Mandeville Department of Special Collections, University of California, San Diego Library, La Jolla, CA.
- ²⁷Leo Szilard to Sir William Beveridge, Brussels, May 14, 1933, Leo Szilard Papers, Box 11, Folder 18, Mandeville Department of Special Collections, University of California, San Diego Library, La Jolla, CA.
- ²⁸ Leo Szilard to Sir William Beveridge, London, May 4, 1933, Leo Szilard Papers, Box 4, Folder 30, Mandeville Department of Special Collections, University of California, San Diego Library, La Jolla, CA.
- ²⁹ Benjamin Liebowitz to Ernst P. Boas, London, May 4, 1933, Leo Szilard Papers, Box 12, Folder 4, Mandeville Department of Special Collections, University of California, San Diego Library, La Jolla, CA.
- ³⁰ Emergency Committee in Aid of Displaced Foreign Scholars, New York Public Library, Manuscripts and Archives Division, New York, N.Y.—For a brief history of the Committee see Laura Fermi, *Illustrious Immigrants, op. cit.*, pp. 76-78.
 - ³¹ *Ibid.*, 195 boxes of correspondence and papers.
- 32 This list is based on the documents of the Emergency Committee in Aid of Displaced Foreign Scholars kept in the Manuscripts and Archives Division of the New York Public Library, New York, N.Y. Robin E. Rider compiled a list of mathematicians and physicists who emigrated to the U. S. or to Britain which appears in the appendix of her excellent paper (op. cit., pp. 172-176). Compared to my list, she added a few more émigré Hungarians such as physicists Gusztáv Kürti, Cornelius Lánczos, and Elisabeth (Erzsébet) Róna, as well as mathematicians Paul Erdæs, Tibor Radó, and Stefan (István) Vajda. Yet, Ms Rider made no distinction between Germans and Hungarians among the immigrant scientists and gave no attention to Leo Szilard's activities or to other Hungarian contributions to the establishment of the Academic Assistance Council or that of the Emergency Committee.—The names listed here are based on my own research. I am grateful to Dr. Gábor Palló for additional information based on his research in the same collection.
- ³³ Michael Polanyi to Arthur Lapworth, Berlin, March 15, 1932 (German), Michael Polanyi Papers, Box 2, Folder 8, Department of Special Collections, University of Chicago Library, Chicago, Ill.
- $^{34} A.\,J.\,[?]\,Allmand\,to\,Michael\,Polanyi, West\,Hampstead, May\,17,1932, Michael\,Polanyi\,Papers, Box\,2, Folder\,8, Department\,of\,Special\,Collections, University\,of\,Chicago\,Library, Chicago, Ill.$
- ³⁵ F. G. Donnan to Michael Polanyi, London, May 19, 1932; Arthur Lapworth to Michael Polanyi, Manchester, June 3 and November 27, 1932; Walter H. Moberly to Michael Polanyi, Manchester, December 15, 1932; Michael Polanyi Papers, Box 2, Folders 8 and 10, Department of Special Collections, University of Chicago Library, Chicago, Ill.—By comparison, the average professor received £1200 p.a. at the University of Cambridge, according to Nobel Laureate Paul A. M. Dirac (Physics 1933). P. A. M. Dirac to John von Neumann, Cambridge, January 12, 1934, John von Neumann Papers, Box 7, "1933: Some

- very interesting letters to J. v. N.," Library of Congress, Washington, D.C.
- ³⁶ E. D. Simon to Michael Polanyi, Manchster, December 22, 1932, Michael Polanyi Papers, Box 2, Folder 10, Department of Special Collections, University of Chicago Library, Chicago, Ill.
- ³⁷ Michael Polanyi to Arthur Lapworth, Berlin, January 13, 1933; Michael Polanyi to F. G. Donnan, Berlin, January 17, 1933, Michael Polanyi Papers, Box 2, Folder 11, Department of Special Collections, University of Chicago Library, Chicago, Ill.
- ³⁸ Michael Polanyi to F. G. Donnan, [Berlin, n.d.] draft, Michael Polanyi Papers, Box 2, Folder 11, Department of Special Collections, University of Chicago Library, Chicago, Ill.
- 39 F. G. Donnan to Michael Polanyi, London, April 7, 1933, Michael Polanyi Papers, Box 2, Folder 11, Department of Special Collections, University of Chicago Library, Chicago, Ill.
- ⁴⁰ Thomas S. Baker to Michael Polanyi, May 10 and June 1, 1933, Michael Polanyi Papers, Box 2, Folder 12, Department of Special Collections, University of Chicago Library, Chicago, Ill. Cp. William Foster, "Princeton's New Chemical Laboratory," *Journal of Chemical Education*, Vol. 6, No. 12, December, 1929, pp. 2094-2095.
- ⁴¹ Clippings, Michael Polanyi Papers, Box 45, Folder 3; Box 46, Folder 4; Department of Special Collections, University of Chicago Library, Chicago, Ill.
- ⁴² Michael Polanyi, *Personal Knowledge. Towards a Post-Critical Philosophy* (Chicago, Ill.: The University of Chicago Press, 1958), p. 238.
- ⁴³ N. Semenoff—M. Polanyi Correspondence, 1930-1932, Michael Polanyi Papers, Box 2, Department of Special Collections, University of Chicago Library, Chicago, Ill. Cp. *The New Encyclopaedia Britannica*, Chicago, 1990, Vol. 10, p. 629. Other Hungarians in Berlin also received invitation to work in the Soviet Union: young musician János Kerekes, then in Berlin, was contracted in 1934 by conductor György Sebestyén [Georg Sebastian] who then served as music director of Radio Moscow, though the plan to become his assistant ultimately failed. The contract referred to a "Verpflegung wie für ausländische Spezialisten," suggesting that the invitation of foreign experts was routine (János Kerekes' contract with Radio Moscow, courtesy János Kerekes; taped interview with Budapest Opera conductor János Kerekes, 1988). Indeed, somewhat earlier, in 1928, Hungarian violinist Joseph Szigeti was also invited to the Leningrad Conservatory to be the follower of Hungarian-born violin professor Leopold Auer. (A[lexander K]. Glazounow, A. Ossowsky and A[lexander V]. Alexandrow, Conservatoire de Léningrad to Joseph Szigeti, Leningrad, 1928, Boston University, Mugar Memorial Library, Joseph Szigeti Papers, Box 1, Folder 3.)
- ⁴⁴ Karl Polanyi to Cecil Polányi, September 27, 1932, [German] Michael Polanyi Papers, Box 18, Folder 2, Department of Special Collections, University of Chicago Library, Chicago, Ill.
 - ⁴⁵ Personal memories of Mrs. Éva Kerekes, August 1994.
- ⁴⁶ "Márti" to Michael Polanyi, Stary Smokovec, Czechoslovakia, July 30, 1932, (Hungarian) Michael Polanyi Papers, Box 2, Folder 8, Department of Special Collections, University of Chicago Library, Chicago, Ill.
 - ⁴⁷ Laura Fermi, "The Dictators and the Intelligentsia," in *Illustrious Immigrants, op. cit.*
- ⁴⁸ Eugene Wigner to Michael Polanyi, [Budapest,] June 30, 1933, Michael Polanyi Papers, Box 2, Folder 12, Department of Special Collections, University of Chicago Library, Chicago, Ill.

- ⁴⁹ Michael Polanyi, *Personal Knowledge. Towards a Post-Critical Philosophy* (Chicago, Ill.: The University of Chicago Press, 1958)
- ⁵⁰ Patterns of networking were occasionally different in Britain, where intellectual organizations occasionally welcomed distinguished Hungarian newcomers such as Karl Mannheim and Michael Polanyi who joined e.g. the progressive circle of 'The Moot' between 1937 and 1946. Cp. Éva Gábor, "Michael Polanyi in The Moot," *Polanyiana*, Vol. II (1992), Nos. 1-2, pp. 120-127. See also Lee Congdon's excellent recent book on Hungarian exiles in Britain, *Seeing Red: Hungarian Intellectuals in Exile and the Challenge of Communism* (DeKalb, IL: Northern Illinois University Press, 2001).
- ⁵¹ Dr Josef Szics to Theodore von Kármán, and Enclosure, Wien, June 29, 1938, Theodore von Kármán Papers, File 29.20, California Institute of Technology Archives, Pasadena, CA.
- ⁵² Miklós Hoff to Theodore von Kármán, Budapest, September 19, 1938 and Palo Alto, CA, April 20, 1940, Theodore von Kármán Papers, File 13.20, California Institute of Technology Archives, Pasadena, CA.
- ⁵³ Wilhelm Szilasi to Theodore von Kármán, Lisboa, May 20, 1941, Theodore von Kármán Papers, File 29.20, California Institute of Technology Archives, Pasadena, CA.
- ⁵⁴ Gábor SzegŒ to Theodore von Kármán, Stanford, July 24, 1940, Theodore von Kármán Papers, File 23.35, California Institute of Technology Archives, Pasadena, CA.
 - 55 Ibid.
 - 56 Ibid.
- ⁵⁷ G[abor] SzegŒ to George Pólya, Stanford, June 11, 1940; President Henry M. Wriston to Georg Polya [sic], Brown University, Providence R.I., July 31, 1940; George Polya Papers, SC 337, 86-036, Department of Special Collections and University Archives, Stanford University Libraries, Stanford, *The Life of Mathematician George Pólya, 1887-1985*, Department of Special Collections and University Archives, Cecil H. Green Library, Stanford University Libraries, December 13, 1987-June 1988 (Exhibit Guide)
- ⁵⁸ Gyula Holló to John von Neumann, n.d. [1939?], John von Neumann Papers, Box 6, Library of Congress, Washington, D.C.
 - ⁵⁹ Magyar Életrajzi Lexikon, Vol. III (Budapest: Akadémiai Kiadó, 1981), p. 311.
- $^{60}\,Dr.\,C.\,W.\,Mayo\,to\,Emil\,Lengyel, May\,19, 1941, Emil\,Lengyel\,Collection, Bakhmeteff\,Archives, Butler\,Library, Columbia\,University\,Library, New\,York, N.Y.$
- ⁶¹ Theodore von Kármán to Lajos Bencze, February 19, 1940, Theodore von Kármán Papers, File 2.24, California Institute of Technology Archives, Pasadena, CA.
 - 62 Laura Fermi, op. cit., p. 53-59.
- ⁶³ Most recently cf. Jean Medawar and David Pyke, *Hitler's Gift. The True Story of the Scientists Expelled by the Nazi Regime* (Arcade Publishing, 2001).

Newbigin, Polanyi and Impossible Frameworks

David Kettle

ABSTRACT Key Words: Lesslie Newbigin, Michael Polanyi, Richard Gelwick, George Hunsberger, religious knowledge, ultimate commitments, unstated assumptions, truth-seeking, dialogue.

Whereas Richard Gelwick has charged Lesslie Newbigin with failing to distinguish between scientific and religious knowing, Newbigin was concerned to resist a false dichotomy between the two. Ultimate commitment to such a dichotomy must allow itself to be questioned in any authentic dialogue with religion as ultimate commitment.

I have followed with interest the conversation between Richard Gelwick and George Hunsberger concerning how Lesslie Newbigin used Michael Polanyi's epistemology. I want to take this discussion a small step further: I shall write more about Newbigin than Polanyi because I think it is necessary to listen further to Newbigin before judging the use to which he put Polanyi.

I begin from Gelwick's reference to Newbigin's 'objection to the teaching of religious studies instead of the catechism in public schools'. In fact Newbigin served on the Standing Advisory Council on Religion Education in religiously plural Birmingham, England, for six years and wrote 'there are no simple solutions to the problems involved in the teaching of religion in public schools in a religiously plural society'. What troubled Newbigin was the standpoint commonly claimed in such teaching: 'What seemed to me not only questionable but profoundly dangerous, was the assumption that religious education could be provided from a neutral position, as though the teacher was standing on a platform above all the rival claims to truth and in a position to survey them all with magisterial impartiality'. He added 'Unstated assumptions have more penetrative power than explicit assertions; the latter can be recognised and questioned while the former tend to go across the threshold of the mind unnoticed'.²

A kindred assumption which Newbigin challenged was the assumption that religions do not make rival claims to truth at all, but belong to a realm of private values where diversity is to be celebrated.³ Indeed simply to picture religions within a common horizon is already to posit such a horizon, rather than the horizon offered by any religion, as the ultimate horizon of life. In each case there is a standpoint upon religion which, Newbigin insists, neither takes seriously religion as a faith-commitment in which all truth-seeking is grounded, nor acknowledges the similar faith-commitment represented by its own framework for understanding religions. In *The Open Secret* he writes 'It is understandable that anyone faced with the clashing diversity of religious commitments should seek some basis for unity among them, or at least some agreed common framework. The difficulty is that we are dealing with *ultimate* commitments, and the basis which I accept can only be *my* commitment.' 'It is understandable', he continues, 'but we have to face the fact that it is impossible. The framework which I devise or discern is my ultimate commitment... as such a commitment, it must defend its claim to truth over against other claims to truth. The claim that I have is simply the claim that mine is the standpoint from which it is possible to discern the truth that relativises all truth. That claim is the expression of the ultimate commitment which is my real religion.' ⁴

Two related tasks follow. One is to take seriously that for the Christian, Jesus is the source 'from whom his understanding of the totality of experience is drawn and therefore the criterion by which other ways of understanding are judged'; while partners in religion dialogue are in a similar position.⁵ The other task, for those who deny this from a platform above religion (including those who profess religious faith but whose 'real religion' lies in commitment to this platform), is to acknowledge this faith-commitment of their own and, in vulnerability, to open this up for dialogue on equal terms with religious partners. Without this, as Newbigin says, 'there is no encounter' with religion.

Having highlighted the necessary role of ultimate commitments - recognised or unrecognised - Newbigin denies that there is any dichotomy between confession of these and truth-seeking. For the Christian, he writes, 'His confession is the starting-point of his truth-seeking. He meets his partner with the expectation and hope of hearing more of truth. But inevitably he will seek to grasp the new truth offered him by means of those ways of thinking and judging and valuing which he has already learned and tested. The presuppositions which shape his thinking will be those which he draws from the Gospel.'

Does this run counter to 'a permanent revolution in our believing'? On the contrary, it takes such revolution to the heart of our ultimate commitments. In authentic religious dialogue the Christian opens his or her faith radically to challenge and to risk. In personal terms, Newbigin writes, 'there has to be a kenosis, a "self-emptying". The Christian (meets) his partner in dialogue... as one who bears witness to a truth and holiness which are God's judgement on him(self) and who is ready to hear the judgement spoken through the lips of his partner of another faith.' Regarding doctrinal matters, 'the dialogue with people of other religions will certainly lead to reconsideration and reformulation of Christian doctrines formulated in other circumstances. The possible limits of such reformulation cannot be laid down theoretically in advance.'

Such Christian confession is consistent with, and indeed ought to involve, 'an eager expectation of, a looking for, and a rejoicing in the evidence of (the work of God) outside the Christian church... (Christians) will join with their non-Christian neighbours in all that serves life against death and light against darkness. They will expect to learn as well as to teach, to receive as well as to give, in this common human enterprise of building up a common human life.'9 But he remarks that "the light" is not to be identified with the religious life of men; religion is in fact too often the sphere of darkness, Christian religion not excluded'.¹⁰

Newbigin's position differs, as I believe Polanyi's does, from more relativistic post-modern positions. Newbigin insists that in religion as in science there is truth to be sought, and in dialogue to this end there will be found, as in science, mutual teaching and learning, enrichment and correction. In the former case, authentic dialogue is personally demanding, costly and risky. For the Christian the search must return repeatedly to its beginning in the cross, paradoxically not as a place of protection from such cost and risk but as the place where these are personally embodied in a paradigmatic way.

Richard Gelwick has charged Newbigin with positing a false equation between indwelling the truthclaims of religion and of science, an equation which Polanyi did not uphold. I have been concerned to show that Newbigin, for his part, challenged the assumption, rooted in cartesianism, which posits a false dichotomy between religious and scientific knowing, a dichotomy which Polanyi did not uphold.

That Newbigin distinguished between religious and scientific knowledge, Hunsberger has shown. Much more could be added here. That Polanyi's writings do not commit us to a dichotomy between religious

and scientific knowing, I believe can be argued at length. My concern here has been only to show in what terms Newbigin may be understood to resist Gelwick's judgement upon him; I believe that a further exploration of Newbigin's thought and its connection with Polanyi's work will be a fruitful pursuit.

Endnotes

- ¹ Lesslie Newbigin, *Unfinished Agenda: An Updated Autobiography*, St Andrew Press, 1993, p.246
 - ² Ibid., p.245
- ³ See, for example, Newbigin, 'Our Missionary Responsibility in the Crisis of Western Culture', in Newbigin, *A Word in Season*, Eerdmans/St Andrew's Press, 1994, pp. 98-112, p.104.
- ⁴ Newbigin, *The Open Secret: Sketches for a Missionary Theology*, Eerdmans, 1978, p.184-5. In the quotations which follow I cannot hope to capture Newbigin's careful discussion in the last chapter of this book. For other material on Christian faith and religion pluralism see Newbigin, 'The Christian Faith and the World Religions', in (ed. Geoffrey Wainwright) *Keeping the Faith*, SPCK, 1988, pp.310-340, and Newbigin, 'Religious Pluralism: A Missiological Approach', *Studia Missionalia*, Vol. 42, 1993, pp. 227-244. The latter includes consideration of 'postmodern' perspectives.
 - ⁵ Ibid., p.191
 - ⁶ Ibid., p.190
 - ⁷ Ibid., p.205
 - ⁸ Ibid., p.209
 - ⁹ Ibid., p.199
 - 10 Ibid., p.198

WWW Polanyi Resources

The Polanyi Society has a World Wide Web site at http://www.mwsc.edu/~polanyi/. In addition to information about Polanyi Society membership and meetings, the site contains the following: (1) the history of Polanyi Society publications, including a listing of issues by date and volume with a table of contents for recent issues of *Tradition and Discovery*; (2) a comprehensive listing of *Tradition and Discovery* authors, reviews and reviewers; (3) information on locating early publications; (4) information on *Appraisal* and *Polanyiana*, two sister journals with special interest in Polanyi's thought; (5) the "Guide to the Papers of Michael Polanyi" which provides an orientation to archival material housed in the Department of Special Collections of the University of Chicago Library; (6) photographs of Michael Polanyi; (7) five essays by Michael Polanyi.

Michael Polanyi and Michael Oakeshott: Common Ground, Uncommon Foundations

Mark T. Mitchell

ABSTRACT: Key Words: Polanyi, Oakeshott, realism, idealism, rationalism, objectivism, political philosophy

This paper examines the work of Michael Oakeshott in relation to that of Polanyi. While there are important similarities that Oakeshott himself recognized, their fundamentally different conceptions of reality—Polanyi 's realism and Oakeshott's idealism—ultimately serve to highlight important distinctions between these two thinkers.

Introduction

Both Michael Polanyi and Michael Oakeshott were concerned with philosophy and political theory, but they approached the subjects from distinctly different perspectives. Polanyi was a successful research chemist whose personal contact with twentieth-century totalitarianism gradually drew his attention to philosophy. Oakeshott, on the other hand, was trained as a historian and taught both history and political theory. Nevertheless, both men were concerned with many of the same issues, and, in fact, Oakeshott for one, believed that he and Polanyi were in agreement at important points in their respective theories of knowledge. Furthermore, both believed that a society's approach to knowledge provides an important key for understanding the politics of that society. In this paper I will first summarize Oakeshott's philosophical project after which I will lay out some of the agreements as well as disagreements between Polanyi and Oakeshott. While there is significant common ground, both philosophically and politically, their respective theories diverge sharply at the foundations: Oakeshott is an idealist, while Polanyi is a realist. It is at this fundamental level, and the implications that arise from it, that the most important differences emerge.

Oakeshott's Idealism

Oakeshott's first book, *Experience and its Modes*, was published in 1933 when Oakeshott was a mere thirty-one years old.¹ In a review, the British historian R.G. Collingwood could barely contain his enthusiasm: "Mr. Oakeshott's thesis…is so original, so important, and so profound that criticism must be silent until his meaning has been long pondered…..I can, in this brief notice, only say that it is the most penetrating analysis of historical thought that has ever been written."²

Oakeshott, like Collingwood, belonged to the school of British Idealists who saw themselves carrying on in the tradition of Bradley and Hegel. In fact, in his introduction to *Experience and its Modes*, Oakeshott admits that the two books from which he learned the most are Hegel's *Phanomenologie des Geistes* and Bradley's *Appearance and Reality*.³ Oakeshott's idealism becomes apparent in his definition of experience. "Experience," he writes, "stands for the concrete whole which analysis divides into 'experiencing' and 'what is experienced'." Oakeshott develops the point further:

Experience is a world of ideas. And the condition of a world of ideas satisfactory in experience is a condition of coherence, of unity and completeness. Further, the world of experience is the real world; there is no reality outside experience. Reality is the world of experience in so far as it is satisfactory, in so far as it is coherent.⁵

Thus, since the world of experience is the real world, and experience is a world of ideas, we can see that for Oakeshott, the real world is a world of ideas. The criterion for judging this world of ideas is not the degree to which it makes contact with an external reality (as claimed by Polanyi) but the internal coherence of that world.⁶ Oakeshott's idealism is ultimately monistic, for although experience can be glimpsed from a variety of standpoints, which may give the impression of a multiplicity of realities, he reminds his readers that "it is important to understand that there is, in the end, only one experience." This one experience is what we call truth, for "what is true and all that is true is a coherent world of ideas."

But humans desire to comprehend experience and thereby engage experience by means of various modes. Oakeshott identifies four modes of experience, which he understands as self-contained worlds: history, science, practice, and poetry. He admits that there is "no theoretical limit to the number of such worlds, and the choice of which we are to consider in detail must, to some extent, be arbitrary." But, the selection is not entirely arbitrary, for "these seem to me to represent the main arrests or modifications in experience, the main abstract worlds of ideas. Moreover, they may be said to be established modes of experience; and each is a sufficiently well-organized and developed world of ideas to present material for analysis."

Modes of experience represent "arrests in experience" whereby one standpoint is used as a point of reference. Thus, "a mode of experience is experience with reservation, it is experience shackled by partiality and presupposition." It is important to understand, though, that these arrests in experience are not parts of a whole, but "the whole from a limited standpoint." Each mode is comprehended as a coherent, self-contained world. There can be no communication between these various worlds, and attempts to effect such communication result in the fallacy of *ignoratio elenchi*, or irrelevance. Thus, what is true in one world is neither true nor false in another; instead, it is meaningless. For example, in the world of science, we might state that a particular geometric theorem is true, but to inquire whether or not the statement is morally true is meaningless. Or again, inquiring whether or not a moral truth is historically true is merely to create a confusion, to commit the fallacy of *ignoratio elenchi*.

Briefly, the modes are distinguished by the following characteristics: History, or the mode of historical experience, is limited to that which can be comprehended as a succession, as a series. Scientific experience "is a world of purely quantitative experience...[it] involves the assertion of reality under the category of quantity." Thus, "whatever cannot be conceived quantitatively cannot belong to scientific knowledge." Oakeshott uses the term 'poetry' to cover all artistic endeavors including painting, sculpting, acting, dancing, singing, literary and musical composition, etc. In Oakeshott's conception, the poetic mode is uniquely characterized by "contemplating" and "delighting."

The mode of practical experience differs from the others in that it is the world in which we typically dwell, and we only get outside this mode if we intentionally choose to step out of it. As Oakeshott puts it,

"Practical experience is the most familiar form of experience. We depart from it but rarely, and such departures are always excursions into a foreign country." Practical experience is distinctive, for in this mode "a coherent world of experience is achieved by means of action, by the introduction of actual change into existence. And the aspect of mind involved is the will. Practice is the exercise of the will; practical thought is volition; practical experience is the world *sub specie voluntatis*." The mode of practical experience includes such things as the "moral life," the "religious life," and "beauty." In short, practical experience is the mode that involves "a life directed by an idea of fact, of system and of coherence." Practical experience is "an attempt to alter 'what is here and now' so as to agree with 'what ought to be." But for this very reason the world of practical experience enjoys no ultimate satisfaction, for "no sooner is [satisfaction] realized at one point in the world of practical existence, than a new discord springs up elsewhere, demanding a new resolution, a fresh qualification of 'what is here and now' by 'what ought to be." Thus, like the other modes, practical experience represents an arrest and is therefore defective. The implications of this claim are significant, and Oakeshott is quite aware of this. There are those, he notes, who hold that ultimate truth lies in morality and religion, but if these are merely modes of experience, then they too are defective arrests and cannot be taken for the totality of reality.²⁴

Yet humans do, in fact, seek to understand the whole. This, for Oakeshott, is philosophy. Oakeshott's intention is first to identify the main modifications or arrests of experience; then show how each represents a coherent world; and ultimately to show their inadequacies by considering each from the perspective of philosophy.²⁵ Philosophy "means experience without reservation or presupposition, experience which is self-conscious and self-critical throughout, in which the determination to remain unsatisfied with anything short of a completely coherent world of ideas is absolute and unqualified."²⁶ This is not to suggest that the various modes are avoidable, for "in experience what is incomplete cannot avoid asserting itself as complete; and when it asserts itself as complete, it cannot avoid the destructive force of the criticism of what actually is complete."²⁷ Thus, philosophy is a never-ending attempt to grasp the totality of experience as a complete and coherent world of ideas. But at the same time, philosophy cannot simply replace the modes of experience. As mentioned above, the vast majority of our lives are spent in the mode of practical experience. It would be impossible as well as undesirable completely to abandon this mode. Thus, "philosophy can and must supersede practical experience; but it cannot take its place."²⁸

Much of Oakeshott's later work is devoted to political philosophy, and this raises an important question: is political philosophy a mode or is it philosophy? The answer to this question will provide the context by which we read Oakeshott's political writings. Oakeshott classifies morality and religion as part of practical experience.²⁹ Presumably politics would fall here as well. But in the conclusion of *Experience and its Modes*, Oakeshott introduces an important concept: pseudo-philosophy. If when seeking to comprehend the whole "there is both a failure to achieve complete coherence and failure also to achieve a specific world of experience, the result is incompleteness, abstraction, deficiency, but without homogeneity or determinate character." These indeterminate arrests in experience (the modes are determinate) are "pseudo-philosophical experience." It is a "mere falling short" of the whole rather than a determinate arrest.³¹ In an important footnote, Oakeshott identifies moral philosophy, theology, and political philosophy as examples of pseudo-philosophy.³² This provides an important differentiation in Oakeshott's account. Religion, ethics, and politics, because they involve an exercise of the will in pursuit of action, fall within the practical mode. On the other hand, theology, moral philosophy, and political philosophy seek to comprehend the whole of experience—that is, they attempt to be philosophical—but because they inadvert-

ently fail to comprehend the whole, they are pseudo-philosophical.

Paul Franco points out that in Oakeshott's later work he abandons the notion of pseudo-philosophy.³³ In his last major work, *On Human Conduct*, Oakeshott admits that the attempt to engage the whole "may be arrested without being denied."³⁴ Thus, the political philosopher, what Oakeshott terms the "self-consciously conditional theorist" indeed engages in philosophy (not pseudo-philosophy), for such a person realizes that the conditional nature of the enterprise necessarily puts it "between heaven and earth"; thus, the political philosopher "has a heavenly home, but he is in no hurry to reach it. If he is concerned to theorize moral conduct or civil association he must foreswear metaphysics."³⁵ In other words, the conditional nature of political and moral philosophy necessitates an arrest that precludes other elements of philosophy such as metaphysics. The political philosopher, then, moves on an "intermediate level of understanding...and should learn to enjoy its liberties and submit to its servitudes as he goes along."³⁶

Two posthumously published essays, "Political Philosophy" and "The Concept of a Philosophy of Politics," shed further light on the subject of political philosophy.³⁷ These essays are especially useful for furthering our understanding of Oakeshott's most widely read political essays published under the title *Rationalism in Politics and Other Essays*, for according to Timothy Fuller, the editor of both collections, the above mentioned essays were written at about the same time as the essays in *Rationalism in Politics*.³⁸ Thus, the view of political philosophy expressed in these essays serves to make explicit what is largely implicit in *Rationalism in Politics*. Although the concept of pseudo-philosophy has disappeared, Oakeshott's conception of philosophy remains essentially unchanged:

Philosophical thought and knowledge is simply thought and knowledge without reservation or presupposition. The aim in philosophy is to arrive at concepts which, because they presuppose nothing, are complete in themselves; the aim is to define and establish concepts so fully and completely that nothing further remains to be added.³⁹

A specifically political philosophy, then, is "an explanation or view of political life and activity from the standpoint of the totality of experience." But despite Oakeshott's claim that philosophy consists in thoroughly defining concepts, he recognizes (with Polanyi) that "it is not possible or desirable that every aspect of a concept should be indicated explicitly in a philosophical definition; but if the definition is to be philosophically satisfactory it must be possible to show how it has implicitly included and superceded all other views. A philosophical concept is categorical because it is complete." Complete does not imply explicitly articulated; rather, philosophy in general, and political philosophy in particular, is philosophical when it defines all that can be defined leaving implicit or undefined that which does not admit of such articulation.

In his essay "Political Philosophy" Oakeshott distinguishes between reflection on politics for the purpose of policy; reflection on politics for the purpose of constructing a political doctrine; and political philosophy, which is "a genuine, unhindered impulse of reflection." As such, "political philosophy can provide no principles to be 'followed', no rules of political conduct to be observed, no ideals of policy or arrangements to be pursued." In short, political philosophy, like all philosophy, has no connection to action or will or volition, which characterize the practical mode. Thus, for the later Oakeshott, political philosophy is properly philosophical—though relegated to an "intermediate level of understanding"—and when we engage his political essays, we must bear this in mind.

Oakeshott's Review of Personal Knowledge

Oakeshott, born in 1901, was ten years Polanyi's junior. Although Polanyi was born and educated on the continent, both spent the majority of their professional lives in England. As far as I can discern Polanyi never refers to Oakeshott in print; although, he must have been aware of his work. Oakeshott, on the other hand, mentions Polanyi on several occasions. His only sustained discussion of Polanyi comes in a review of Polanyi's *Personal Knowledge*.⁴³ Widely regarded as a superior stylist, Oakeshott criticizes Polanyi's presentation:

It is a book full of side-glances into other matters; it is disordered, repetitive, digressive, and often obscure; as a work of art it leaves much to be desired....Professor Polanyi's ambition to let nothing go by default, to surround his argument with an embroidery, not of qualification but of elaboration, and to follow his theme into every variation that suggests itself, make the book like a jungle through which the reader must hack his way.⁴⁴

Yet, despite the stylistic shortcomings, Oakeshott finds much to appreciate. He notes with favor Polanyi's critique of empiricism, his denial of the moral neutrality of scientific investigation, and Polanyi's insistence on the personal element in all knowing. Oakeshott agrees that scientific knowing is an acquired skill, which is obtained through practice and includes an unspecifiable element that cannot be reduced to specific rules.

Oakeshott, though, does detect a possible problem in Polanyi's theory of knowledge, for once absolute objectivity is denied, the danger of a slide into subjectivism becomes acute. Although Polanyi goes to great lengths to avoid this conclusion, Oakeshott is unsure of Polanyi's ultimate success, for he rightly understands that Polanyi's theory of knowledge escapes subjectivism only if Polanyi's realism is true. Thus, Oakeshott writes, "in the end a belief that our thoughts are moved by 'an innate affinity for making contact with reality' seems to be the only premiss, properly speaking, of scientific enquiry and the means by which it transcends merely personal conviction."⁴⁵ Oakeshott, a self-proclaimed sceptic,⁴⁶ muses that this assumption seems to rest on excessive belief, for Polanyi's theory of knowledge "is as little sceptical as it is positivistic...[and]...Professor Polanyi doesn't do as much scepticism for himself as might have been hoped and as the occasion seems to demand."⁴⁷ Oakeshott goes on to suggest that Polanyi's lack of a sceptical demeanor indicates that "at the edges of his argument there is a suspicion of philosophical innocence." This criticism should not surprise us given the fact that Oakeshott once wrote that "it is always more difficult to doubt radically and intelligently than to believe."⁴⁹ Here, at the very foundations of their respective theories of knowledge, a two-fold disagreement emerges that, in large measure, sums up their differences: Oakeshott's idealism and Polanyi's realism; Oakeshott's scepticism and Polanyi's a-critical philosophy. A key difference between idealism and realism is their different standards for verifying truth: for the idealist, coherence is the sole criterion; for Polanyi the realist, truth consists in making contact with an external reality.

Common Ground

While Oakeshott disagrees with Polanyi on the question of the primacy of belief and on the assumption of an external reality with which we strive to make contact, there is much in Polanyi's writings with

which Oakeshott agrees. In his seminal essay, "Rationalism in Politics," Oakeshott discusses two types of knowledge-practical and technical-and remarks in a footnote that "some excellent observations on this topic are to be found in M. Polanyi, Science, Faith and Society."50 In another essay, Oakeshott points the reader's attention to the same work by Polanyi and calls it "brilliant."51 Oakeshott obviously found much common ground between his emphasis on practical, unformulatable knowledge and Polanyi's discussion in Science, Faith and Society of the fact that scientific investigation cannot proceed on the basis of rules alone. In Polanyi's words, "the rules of research cannot be usefully codified at all. Like the rules of all other high arts, they are embodied in practice alone" (SFS, 33). For both, knowledge embodied in practice cannot be acquired except through a personal relationship between a master and an apprentice in which the apprentice submits himself to the authority of the master and in so doing acquires the skills necessary to master the particular field of inquiry. Such practical, unformulatable knowledge exists only in traditions which exercise authority by requiring a degree of submission by those who seek to become full practicing members.⁵² Thus, Oakeshott's practical knowledge is quite similar to the unformulatable knowledge of which Polanyi speaks. Oakeshott insists that the modern rationalist relies excessively on technical knowledge while denying practical knowledge. This maps onto the philosophical disposition Polanyi calls "objectivism." Finally, both believe that a central problem with modern politics is an erroneous theory of knowledge. In Oakeshott's understanding, the modern rationalist, in his zealous quest for rational certainty, denies any knowledge that is not technical, that cannot be formulated into explicit rules.⁵⁴ Similarly, Polanyi argues that the ideal of doubt in combination with the demand for strict verification destroys any possibility of knowledge of those ideals we hold most dear. It creates the erroneous ideal of rational detachment, which, it is believed, will produce universally certain knowledge.⁵⁵ In short, both Oakeshott and Polanyi believe that an error in epistemology, which denies the possibility of any knowledge that is not explicit, is the root cause of much that has gone amiss in modern political theory as well as practice.⁵⁶

It is important to point out that while Oakeshott here does speak in the idiom of practical knowledge, he is not engaging the practical mode. Rather, he is theorizing political activity—doing political philosophy—and arguing that a part of any skilled knowing is not fully articulable. In short, he is arguing that any body of knowledge includes elements that are fully susceptible of explicit articulation and elements that are not. As we have already seen, Oakeshott believes that "it is not possible or desirable that every aspect of a concept should be indicated explicitly in a philosophical definition."⁵⁷

Both Polanyi and Oakeshott employ the concept of tradition, and argue that a wholesale rejection of tradition is detrimental to knowing. Engaging fully in a tradition requires submission to an authority in the form of a master to an apprentice. Knowing is an art that requires skill. The skill necessary to know requires a relationship with a master whereby one can learn the unspecifiable elements of any skill and thus eventually become a connoisseur. All skills are comprised of two types of knowledge—in Oakeshott's terms, technical and practical, and in Polanyi's idiom, the tacit and the explicit. Since all skills contain elements that are unspecifiable, they cannot be acquired apart from practice, which entails submitting oneself to the authority of a master who is himself working within a tradition. Thus, all skillful knowing requires the presence of a tradition, an individual who has mastered the unspecifiable elements of the skill, and a willingness to submit by the student to the authority of the master in order to engage the tradition and thereby acquire its unspecifiable skills.⁵⁸

Subject/Object Dualism

Both Polanyi and Oakeshott seek to reconceptualize the so-called subject-object dualism that is so commonly assumed in modern philosophy, but due to their radically different starting points—idealism and realism—their respective solutions are quite different. For Oakeshott, the subject-object dualism is a product of an erroneous theory of mind that holds that in order to achieve a properly rational conclusion the mind must be emptied of all presuppositions.⁵⁹ It must become completely detached from that which it seeks to know, free from any prejudice that might influence it, a neutral instrument exercising nothing other than purely rational judgement.⁶⁰ But, for Oakeshott, there is no mind other than the ideas of which it is composed. There is no neutral instrument that can be applied to a subject. Instead, for him "experience is a world of ideas" and "there is no reality outside experience." Thus, reality is the whole of experience, and the mind is part of that experience. There is no objective reality independent of the mind, for there is no mind that is independent of experience. Seeking understanding is to seek a greater coherence of the whole of which our ideas are a part. For Oakeshott, then, the subject-object dualism is a reflection of an incorrect theory of mind and reality, and Oakeshott's theory of mind simply denies the duality.

Polanyi, on the other hand, believes that there exists a mind-independent reality that is knowable although only imperfectly and provisionally. Humans have an innate desire to comprehend this reality, and in so comprehending we can bring greater coherence to our understanding of it.⁶² But such understanding only comes through effort the fruits of which reveal themselves—often in unexpected ways—when we make contact with reality.⁶³ Since reality is independent of the knower, Polanyi's position countenances a dualism between that which is knowable and that which knows. This, at face value, appears to be an affirmation of the subject-object dichotomy. But Polanyi does not seek to deny the dichotomy as does Oakeshott, but to reconceptualize it. In Polanyi's view, the objectivist mistakenly affirms the theoretical ideal of a virgin mind completely unencumbered by traditional knowledge, prejudice, or untested presuppositions.⁶⁴ This ideal is virtually identical to Oakeshott's rationalist. But instead of denying the duality between the subject and the object as does Oakeshott, Polanyi takes a different tack—one that Oakeshott would find wholly unsatisfactory. Rather than claiming that the objectivist has an errant view of mind, as does Oakeshott, Polanyi argues that the objectivist has an errant view of knowledge, and only a partially incorrect view of mind. In other words, Polanyi agrees with Oakeshott that it is absurd to imagine that it is possible completely to separate one's mind from the traditions, prejudices, and a-critical presuppositions that serve in significant ways to constitute that mind. For example, Polanyi believes that one must submit to a tradition embodied in a particular language in order to think critically.⁶⁵ But, as a realist, Polanyi does not reject a mind-independent reality. There is, he claims, an objective reality that we strive to know. But because all knowing includes a personal element and depends on a fiduciary framework based on an a-critical commitment, the subjective is overcome by the personal.⁶⁶ Because the knower embraces the objects of this knowledge with universal intent, his freedom to believe anything is, as Polanyi puts it, constrained by the responsibility to do as he must, for each is limited by the reality that he seeks to know and comprehend.⁶⁷ The concept of commitment to a vision of reality with universal intent is what elevates the merely subjective to the personal. Thus, for Polanyi, the subject-object dualism is not denied but transcended by a personal commitment to responsibly pursue an ever-deepening vision of reality.

Rationalism and Objectivism, Morality and Politics

It should be clear by now that the essential differences between Polanyi and Oakeshott can be traced back to their differences regarding the nature of reality and the manner in which the human mind relates to that reality. Despite this fundamental difference, though, both agree that an incorrect view of knowledge has significant implications for political philosophy. Both believe that modern theories of knowledge, which seek an ideal of purely explicit knowledge grasped by neutral minds, are mistaken. And although they disagree about the ultimate remedy—one grounded in a sceptical idealism, the other in an a-critical realism—they share much agreement as to the proximal causes of the modern problem.

As we have seen, Oakeshott characterizes the mistaken view of knowledge as "modern rationalism"; Polanyi finds the modern errors in what he terms "objectivism." The rationalist and the objectivist share some striking similarities which we do well to understand, for the amount of congruence on this point indicates the important ways Polanyi and Oakeshott are similar despite their fundamental differences. First, the rationalist rejects all appeals to tradition. All appeals to authority are rejected save the authority of one's own neutral mind engaging the facts in a purely detached fashion.⁶⁸ Second, the rationalist is committed to the goal of perfectionism, for since the rationalist is committed to finding rational solutions, he cannot settle for solutions that are imperfect. Finally, the rationalist seeks uniformity, and this is a direct product of the rationalist's perfectionism, for the perfect rational solution must necessarily be equally perfect for all rational people.⁶⁹ The rationalist believes that all differences caused by the particularities of culture, tradition, language, and history, must be transcended in the process of directly engaging universal truths unmediated by particulars. But in Oakeshott's words, "a scheme which does not recognize circumstances can have no place for variety."⁷⁰ Thus, the rationalist rejects the authority of tradition and habit and pursues his ideal of perfect uniformity employing only the resources of his unencumbered rationality in the process. But because it is impossible completely to throw off the particularities in which one is embedded, the rationalist ideal necessarily causes an internal incoherence and disarray in the rationalist's understanding of morality and politics. As a result, the rationalist knows less and less about how properly to behave.

Oakeshott argues that the moral perfectionism of the west finds its roots in the early Christian centuries. The morality of the early Christian church emphasized habits and affections of behavior motivated by faith, hope, and charity. There were no formal moral ideals; instead, "the morality of these communities was a custom of behaviour appropriate to the character of the faith and to the nature of the expectation." Over the course of the first several Christian centuries, though, a change occurred. Christian morality began to become formalized in a collection of abstract ideals. Oakeshott suggests that this change may have been brought about in the process of attempting to package Christianity for audiences who lacked the traditions out of which Christianity was born. In other words, the message of Christianity had to be abridged in order to make it accessible to other cultural traditions. In the process though, "the urge to speculate, to abstract and to define, which overtook Christianity as a religion, infected also Christianity as a way of moral life." But this abridgement of Christian habits and customs into a creed that could be translated across cultural and linguistic boundaries produced a morality corresponding to this change. Rather than emphasizing habits and customs rooted in a tradition, moral ideals were abstracted from the original traditional behavior. The new emphasis on moral ideals signaled a shift toward modern rationalism that fully emerged in early modernity with its three-fold emphasis on perfection, uniformity, and a wholesale rejection of tradition.

Polanyi's account closely parallels Oakeshott's; although, he goes into far more detail describing the damaging consequences produced by the erroneous theory of knowledge. First, like the rationalist, Polanyi's objectivist rejects the authority of tradition and seeks to acquire a virginal mind, detached from any personal commitments or prejudice. This is accomplished by subjecting all opinions and prejudices to a universal and methodological doubt as exemplified by Descartes.⁷³ Second, universal and systematic doubt severely reduces the possible range of inquiry. This is especially so due to the caustic work of doubt on any beliefs that are not totally susceptible of rational deduction or empirical verification. Thus, religious belief quickly went the way of tradition, with which it was closely tied. When the possibility of knowing was reduced to only that which could be known with explicit certainty, the false ideal of scientific detachment and doubt was hailed as the standard for real knowing. Thus, the modern rejection of the authority of tradition, coupled with the elevation of doubt as the ideal epistemological starting point, produced a scepticism about all that could not be determined using scientific methodology. Morality, along with religion and aesthetics, fell into this category. The rise of science and the denigration of all other fields of inquiry produced a uniform methodology by which all knowledge could be judged. The fact-value barrier was raised, and morality, along with all other non-scientific pursuits, was relegated to the ignominious realm of subjective value. On the other hand, the exact sciences, it was believed, dealt only with objective facts; therefore, science was thought to proceed purely on the basis of a uniformly applicable and explicitly articulable methodology. Here we see the modern emphasis on uniformity emerging in Polanyi's account just as it does in Oakeshott's.

Like Oakeshott, Polanyi recognizes that Christianity has significantly influenced the development of morality in the west. But while the radical scepticism born of the early modern period rendered Christianity untenable, the transcendent perfectionism embodied in Christianity, rather than being abandoned, was merely replaced by a purely immantentized perfectionism that denied the reality of any moral ideals. This impulse toward moral perfectionism, combined with a rational scepticism that denied any real status to moral ideals, created a volatile tension within the western psyche. This ironic combination of mutually exclusive forces is what Polanyi calls moral inversion.⁷⁴ This state of affairs manifests itself as individual nihilism and political totalitarianism, whereby those under its spell release their moral passions (the reality of which they must ultimately deny) in the service of utopian ends (the real goodness of which they cannot admit). And because moral scepticism lies at the heart of this view, any means necessary are justifiable to achieve the desired ends.

Conclusion

Both Polanyi and Oakeshott believed that a mistaken theory of knowledge produces harmful moral and political results. They differ, though, on the proper remedy. Oakeshott offers his idealism with its accompanying theory of mind that denies the subject-object dualism and seeks only to pursue intimations in an effort to achieve greater coherence. Polanyi, on the other hand, affirms the existence of an external and independent reality with which we strive to make contact. He denies the objectivist ideal of detachment and doubt and instead formulates his post-critical epistemology, which is rooted in commitment, belief, and the tacit. In the end, then, the differences between Polanyi and Oakeshott can only be adequately addressed when we consider the viability of their respective understanding of the nature of reality, and it is at this point that Polanyi's realism appears superior. Oakeshott's theory of knowledge does not seem able to avoid sliding into a form of moral relativism. This is due to that fact that coherence alone as a test for truth is inadequate. Polanyi puts it this way: "Coherence as the criterion of truth is only a criterion of stability. It may equally stabilize an erroneous or a true view of the universe" (*PK*, 294). To there words, coherence itself is not a good, for

it is conceivable that a coherent tradition is at the same time an immoral tradition, unless, of course, one assumes (as does Polanyi) that reality, itself, is both a coherent whole and morally good. In this case, the goal of coherence makes moral sense, for in seeking coherence, a tradition is attempting to fashion itself according to a moral reality. But at this point it becomes obvious that we are no longer relying completely upon a coherence test of truth, for we have introduced the concept of moral reality—we have inadvertently slipped into a realist mode of thought. In short, without an independent reality that is knowable—albeit imperfectly and provisionally—there is no way to evaluate which of two stable moral traditions is preferable. Without such a standard, however imperfect, we are left with, at best, a relativism between apparently stable traditions. Polanyi's commitment to realism allows him to avoid this problem. Thus, if avoiding moral and political relativism is desirable, it appears that Polanyi's realism is preferable to Oakeshott's idealism.

In the end, both Polanyi and Oakeshott agree that a source of the modern problem is an errant conception of knowledge. To some extent they agree on the solution, for against the modern rationalist/objectivist both argue for the recovery of such notions as tradition, practice, commitment, submission, apprenticeship, and inarticulable truths. But at the very roots of their respective philosophical accounts they diverge, and it is at this point that Polanyi's realism appears preferable to Oakeshott's idealism. But as Oakeshott points out, and as Polanyi would agree, such a position requires a step of faith—a commitment to a conception of reality that ultimately does not admit of definite proof. Such, Polanyi acknowledges, is the case with all of our most deeply held beliefs. Such, it seems, is the essence of the human condition.

Endnotes

There is some debate as to whether or not Oakeshott's views are consistent throughout his career. Paul Franco and W.H. Greenleaf emphasize the continuity in Oakeshott's thought. See W.H. Greenleaf, *Oakeshott's Philosophical Politics* (New York: Barnes & Noble Inc., 1996) and Paul Franco, *The Political Philosophy of Michael Oakeshott* (New Haven: Yale University Press, 1990). Others have argued that Oakeshott's thought is characterized by a degree of discontinuity. See, for example, Charles Covell, *The Redefinition of Conservatism: Politics and Doctrine* (New York: St. Martin's Press, 1986) and Steven Anthony Gerencser, *The Skeptic's Oakeshott* (New York: St. Martin's Press, 2000).

²R.G. Collingwood, "Review of Experience and its Modes by Michael Oakeshott," *The Cambridge Review* 55 (1934):249-50.

⁶Oakeshott writes: "It seems that philosophers (and others) have considered reality so important that to conceive of it as situated within experience appeared to offer it an affront. Consequently it has become almost a tradition to begin by postulating a gulf between experience and reality, a gulf which many have declared impassible, but which some have believed themselves to have bridged. Such a point of departure, however, appears to me misconceived, and I must beg to be allowed another from which to consider this subject. Instead of constructing a view of experience on the basis of a conception of reality, I propose to derive my view of the character of reality from what I conceive to be the character of experience. And what I have first to suggest is that reality is experience" (*EM*, 49).

³ Experience and its Modes (London: Cambridge University Press, 1933) 6. Hereafter, EM.

⁴ EM, 9.

⁵ EM. 69.

⁷ EM. 81.

⁸ EM, 49.

⁹ Only the first three modes are discussed in *Experience and its Modes*. Oakeshott adds poetry in an essay published in 1959 titled "Poetry and the Conversation of Mankind," published in *Rationalism in Politics and Other Essays* (Indianapolis: Liberty Fund, 1991).

¹⁰ EM, 75.

¹¹ EM, 84.

¹² EM. 74.

- ¹³ EM. 74.
- ¹⁴ EM, 76. "All abstract worlds of experience are wholly independent of one another. Between them there can be no passage of argument whatever without the grossest fallacy" (EM, 311).
- ¹⁵ This view has significant implications for the modern dominance of science. Oakeshott realizes this and thrusts hard against so-called scientism: "We have too long been accustomed to the notions that science is a guide to life, that science is the only true guide to life, and that the world of practical experience (and particularly moral and religious ideas) must submit themselves to the criticism of scientific thought, for any other view not to appear false or reactionary or both. But there is little in the history of folly to which one may compare the infatuation which the modern mind has conceived for 'science'"(*EM*, 312).
- ¹⁶ EM, 172.
- ¹⁷ EM, 221.
- ¹⁸ Michael Oakeshott, Rationalism in Politics (Indianapolis: Liberty Fund, 1991), 44. Hereafter, RP.
- ¹⁹ EM, 296.
- ²⁰ EM, 258.
- ²¹ EM. 296.
- ²² EM. 289.
- ²³ EM, 291.
- ²⁴ EM, 308-11.
- ²⁵ EM. 84-5.
- ²⁶ EM. 82.
- ²⁷ EM. 330.
- ²⁸ EM, 354.
- ²⁹ EM, 309.
- ³⁰ EM, 332.
- ³¹ EM, 331.
- ³² EM. 335 n1.
- 33 Paul Franco, The Political Philosophy of Michael Oakeshott (New Haven: Yale University Press, 1990) 244n1.
- ³⁴ On Human Conduct (Oxford: Clarendon Press, 1975), 11.
- ³⁵ On Human Conduct, 25. Cf. "The Concept of a Philosophy of Politics," in *Religion, Politics and the Moral Life*, ed. Timothy Fuller (New Haven: Yale University Press, 1993) 133.
- ³⁶ On Human Conduct, 33.
- ³⁷ Religion, Politics and the Moral Life, ed. Timothy Fuller (New Haven: Yale University Press, 1993).
- ³⁸ Religion, Politics and the Moral Life, 119, 138.
- ³⁹ *Ibid.*, "The Concept of a Philosophy of Politics," 127.
- ⁴⁰ *Ibid.*, "The Concept of a Philosophy of Politics," 126.
- ⁴¹ *Ibid.*, "The Concept of a Philosophy of Politics," 130.
- ⁴² *Ibid.*, "Political Philosophy" 153, 154.
- ⁴³ Michael Oakeshott, "The Human Coefficient," Encounter 11 (1958): 77-80.
- ⁴⁴ *Ibid.*, 77. While this seems primarily a stylistic point, Oakeshott, who held that the purpose of philosophy is to define clearly all pertinent concepts, would find Polanyi's work substantively problematic as well. Cf. Marjorie Grene's comments on the relationship between Polanyi's style and his philosophical project in "Tacit Knowing" Grounds for a Revolution in Philosophy," *Journal of the British Society for Phenomenology* 8.3 (1977): 167-8.
- 45 *Ibid.*, 79.
- ⁴⁶ RP, 509.
- ⁴⁷ Michael Oakeshott, "The Human Coefficient," 79.
- 48 Ibid. 79
- ⁴⁹ Michael Oakeshott, "John Locke," *The Cambridge Review* 54 (1932-3): 72.
- ⁵⁰ Oakeshott, RP, 13n4.
- ⁵¹ Michael Oakeshott, "Science and Society," *The Cambridge Journal* 1 (1947-8): 692n1.
- ⁵² See Oakeshott, RP, 5-42 passim and Polanyi, SFS, passim.
- ⁵³ PK, vii. 3, 264-8, 269-98, 381.

- ⁵⁴ Oakeshott, *RP*, 15.
- ⁵⁵ PK. 269ff.
- ⁵⁶ It should be pointed out that in the two notes in which Oakeshott refers to the parallels between his concepts of practical and technical knowledge and Polanyi's discussion of similar concepts, he is referring exclusively to Polanyi's early *Science*, *Faith and Society*. In that work Polanyi does not develop his theory of tacit knowing with the distinction between the focal and subsidiary elements. Thus, while Oakeshott is quite correct to see the similarities between his work and Polanyi's at this stage, Polanyi develops this area of his thought much more thoroughly than Oakeshott; thus, while the similarities are always unmistakable, Polanyi's later work is significantly more complex and supercedes Oakeshott's conception by virtue of that more complex development.
- ⁵⁷ "The Concept of a Philosophy of Politics," 130.
- ⁵⁸ Oakeshott, RP, 29, 39, 123, 466; Polanyi, PK, 31, 49-65; TD, 61-2; KB, 41.
- ⁵⁹ The phrase "emptied of all presuppositions" hearkens to Oakeshott's definition of philosophy. But to theorize about a practice—to do political philosophy—one must, as we have seen, occupy an intermediate level along with its attendant presuppositions. The rationalist seeks to make all theory purely philosophical (in Oakeshott's sense) but in so doing renders practice incoherent.
- ⁶⁰ Oakeshott, *RP*, 101-6.
- ⁶¹ EM, 69.
- ⁶² PK, 301; KB, 314, 316.
- ⁶³ *PK*, vii, 5, 64, 104, 106, 311; *KB*, 133-4, 168. Polanyi frequently speaks of "intimations of coherence," but unlike Oakeshott, he is referring to contact with an external reality and not the to internal coherence of a world of experience.
- 64 PK, 295.
- ⁶⁵ PK, 376; KB, 41, 160.
- ⁶⁶ PK, 266, 300, 403.
- ⁶⁷ PK, 303, 309, 311, 313, 316, 324; TD, 78.
- ⁶⁸ Oakeshott, RP, 6-9.
- ⁶⁹ *Ibid.*, 9-11.
- ⁷⁰ *Ibid.*, 10.
- ⁷¹ *Ibid.*, 484.
- ⁷² *Ibid.*, 484.
- ⁷³ *PK*, 269-72, 294-98.
- ⁷⁴ PK, 231-5; TD, 4, 57, 85-6; KB, 14-18, 21-2, 44-5; Meaning, 17-18, 28; LL (Liberty Funded.) 131; Michael Polanyi, Society, Economics, and Philosophy: Selected Papers, ed. R.T. Allen (New Brunswick, NJ: Transaction Publishers, 1997), 83-93, 95-105, 113-15.
- ⁷⁵ Italics in original. Cf. PK, 288-94.
- ⁷⁶ There is an on-going debate among Polanyi scholars regarding Polanyi's view of the status of moral, religious, and artistic reality. This topic comes up with some regularity in the journal *Tradition & Discovery*. See, for example, the issue devoted exclusively to Polanyi's realism, 26.3 (1999-2000). For perhaps the most thorough discussion of Polanyi's realism see Esther Lightcap Meek, *Contact With Reality: An Examination of Realism in the Work of Michael Polanyi*, unpublished dissertation, Temple University, 1983.
- ⁷⁷ Paul Franco attempts to show how Oakeshott's position does not lead to a "featureless relativism," but because coherence is the only criterion that Oakeshott allows, the ensuing relativism may not be featureless (for it is indeed internally coherent), but it does appear to be a form of relativism nonetheless. See Paul Franco, *The Political Philosophy of Michael Oakeshott* (New Haven: Yale University Press, 1990) 132-3, 138-9.

Notes on Contributors

Tibor Frank (tzsbe@hu.inter.net) is Professor of History at Eötvös Loránd University, Budapest, Hungary. His main field of research is transatlantic studies, currently focusing on U.S.—Central European political, diplomatic, social and cultural interactions between the mid-19th and the mid-20th centuries. He has authored five books, most recently *Genius in Exile: Professional Immigration from Interwar Hungary to the United States* (2002).. His thirteen edited books include *A History of Hungary* (1990, paperback 1994, edited with Peter F. Sugar and Péter Hanák). He has been a visiting professor at UCSB, UCLA, University of Nevada, Reno, and Columbia University.

David Kettle (djk@kettle.force9.co.uk) is an Anglican priest who has worked in England and New Zealand, and is the Coordinator of the Gospel and Our Culture network in Britain (www.gospel-culture.org.uk). His article "Cartesian Habits And The 'Radical Line' Of Inquiry" recently appeared in *TAD* 27:1 (2000-2001), 22-32.

Mark T. Mitchell recently completed his Ph.D. in the Government Department at Georgetown University. He is currently a postgraduate fellow at Liberty Fund in Indianapolis, Indiana. In a forthcoming paper in *Modern Age* he proposes Polanyi as a viable alternative to the dead-end reached by the modern/post-modern project.

Submissions for Publication

Articles, meeting notices and notes likely to be of interest to persons interested in the thought of Michael Polanyi are welcomed. Review suggestions and book reviews should be sent to Walter Gulick (see addresses listed below). Manuscripts, notices and notes should be sent to Phil Mullins. Manuscripts should be double-spaced type with notes at the end; writers are encouraged to employ simple citations within the text when possible. MLA or APA style are preferred.; because the journal serves English writers across the world, we do not require anybody's "standard English." Abbreviate frequently cited book titles, particularly books by Polanyi (e.g., *Personal Knowledge* becomes *PK*). Shorter articles (10-15 pages) are preferred, although longer manuscripts (20-24 pages) will be considered. Consistency and clear writing are expected.

Manuscripts normally will be sent out for blind review. Authors are expected to provide a hard copy and a disk or an electronic copy as an e-mail attachment. Be sure that electronic materials include all relevant information which may help converting files. Persons with questions or problems associated with producing an electronic copy of manuscripts should phone or write Phil Mullins (816-271-4386). Insofar as possible, *TAD* is willing to work with authors who have special problems producing electronic materials.

Phil Mullins Missouri Western State College St. Joseph, Missouri 64507 Fax (816) 271-5680

Phone: (816)271-4386 E-mail: mullins@mwsc.edu Walter Gulick Montana State University, Billings Billings, Montana 59101 Fax (406) 657-2187 Phone: (406) 657-2904

E-mail: WGulick@msubillings.edu

REVIEWS

Thomas F Torrance. *The Ground and Grammar of Theology*. 2nd edition. (September 2001) Continuum International Publishing Group ISBN 0 567 08778 6. \$29.95, paper.

One of the rules for acceptable behaviour in the academic world is to keep to one's own specialism. This rule inhibits empire building by aggressive colleagues and avoids the embarrassment caused by hearing scholars eminent in their own field talking egregious nonsense about subjects with which they have only a nodding acquaintance.

There are, however, exceptions to this general rule. One such was Michael Polanyi who not only possessed the critical analytic powers valued by academia but was able to see beyond his own specialism and to synthesise a general post-critical epistemology. Polanyi's friend Thomas Torrance is another thinker of this calibre. I remember my amazement at reading his commentary on Maxwell's groundbreaking paper: 'A dynamical theory of the electromagnetic field'. Here was a professor of theology writing with deep understanding about a topic in physics that has defeated, and continues to defeat, many physicists who understand the mathematics of Maxwell's equations but fail to grasp Maxwell's ideas or his method. Since then I have read everything written by Torrance I could lay hands on and learned from him much about my own subject of electromagnetics as well as his subject of theology.

When I saw a notice of the reissue of Torrance's lectures called *The Ground and Grammar of Theology*, I at once sent for a copy and have now read it several times. I was not disappointed. This book seems to me to provide the key to Torrance's other writings because it contains the basis of the themes he has developed in them.

There are 6 chapters. The first one, entitled 'Man the Priest of Creation', sets the scene by affirming the unity of creation. Space and time provide the rationality that motivates both scientific and theological enquiry. That implies that science and theology have much to say to each other. Man and the universe are bracketed together and this anthropic principle assigns a 'metaphysical' role to man. Natural science and theology are partners before God. That does not mean that the two fields of investigation should be confused. Each subject must be investigated in accordance with its own nature. Nevertheless there are many analogies between them. Moreover both science and theology are in a state of flux and are moving from an atomistic to a relational understanding. In theology, this means that the Being of God and the Act of God are closely joined.

In the second chapter, 'Emerging from the Cultural Split', Torrance attacks 'dualism' as the source of all kinds of error both in science and theology. This is a topic that recurs in his other books, where it is not always clear what is meant by dualism. It is therefore particularly helpful to have a full explanation in this book.

He traces the origins of dualism to the thought of Plato and Aristotle, who separated terrestrial rectilinear motion from celestial circular motion and used this scientific distinction as an example of the division between empirical and theoretical knowledge. This involved a sharp contrast between the physical and the spiritual, the temporal and the eternal, and the mortal and the divine.

Ptolemaic cosmology followed Aristotle in the distinction between phenomena above and below the moon, but this scientific dualism was overthrown by the work of Copernicus and Galileo. However Aristotelian science continued to be very influential in theology. Augustine, who stressed the antithesis between God and the world, heaven and earth, and the eternal and the temporal, reinforced dualism. This resulted in a fusion of Aristotelian science with Christian belief in the Middle Ages.

In spite of the collapse of Aristotelian cosmology, dualism remained dominant in science. Newton distinguished between absolute time and space and relative time and space. He identified the absolute space and time with the mind of God. Dualism was also prominent in the writings of Descartes and Locke and their philosophy influenced theology. Kant's effort to save causality from the scepticism of Hume connected sense experience with the structure of human consciousness and Kant taught that there was no possibility of knowing things in themselves. This transferred Newton's God-related time and space to a human mind-related time and space and severed the connection between God and humanity and between science and faith.

Biblical interpretation was affected strongly by Kant's philosophical dualism. A distinction was made between *Geschichte* and *Historie*, faith and hearing, the Word of God and the Word of Scripture. The idea of incarnation came to be regarded as a mythological statement about human consciousness, so that one cannot know anything about Jesus Christ as he is in himself. All we can know is the impression he made on his contemporaries. Since we cannot know anything about them either, we are faced by an infinite regress.

The chapter ends on a more cheerful note. Modern science, especially in relativity theory, has abandoned dualism and recovered the unity of form and being. That discovery is influencing the human sciences and theology.

In the third chapter, 'Creation and Science', Torrance turns to the other side of the interaction of science and theology. Not only can theology learn from science, but science can also learn from theology. Natural science requires more than a Weltanschauung. It requires a Weltbild and this has been derived from the Judeo-Christian doctrine of creation. That doctrine is not the Stoic one of God as the soul of the world nor the Aristotelian view that God is the 'unmoved mover' of the universe. Nor does it operate with a duality that separates the real, eternal and changeless from the unreal, apparent and evanescent. God is real and good and he is living and active. He is not part of the world, but has become incarnate in the world. These Christian insights were formulated by theologians in Alexandria in the 4th and 5th centuries in terms of three masterful ideas. 1. The rational unity of the universe and its creation out of nothing by God. 2. The contingent rationality and intelligibility of the universe. 3. The contingent freedom of the universe.

These ideas destroyed the identification of God and the universe. They also destroyed the concepts of determinism, necessity and fate. They replaced a closed cyclical universe by an open, developing universe. Instead of describing God in terms of fixed static properties, he was seen as dynamic and active. For example, he was not 'eternally creator', but he freely chose to become creator and to become incarnate in the creation.

These early Christian ideas have proved to be the essential foundation of natural science with its central tenet of the contingent intelligibility of the world.

In Chapter 4, 'The Transformation of Natural Theology', Torrance discusses the effect of the principles of unity and contingency on the development of natural theology. For much of Christian history, natural theology has been contrasted with revealed theology. Natural theology was devised to provide a bridge between the world and God. It was hoped that eternal patterns could be 'read off' from the book of nature and this made the outlook of natural theology largely this-worldly. It tended to assume a naturalistic and mechanistic stance that turned its back on God, *acsi deus non daretur*. The

world system came to be closed on itself and a secular culture displaced the sacral culture of the Middle Ages.

Various factors combined to show the inadequacy of natural theology as a logical bridge to God. Among these were Hume's scepticism about causality, Kant's rejection of objective intelligibility and the logical positivism of the Vienna circle. The attempt to find a moral rather than a logical basis for natural theology was unsuccessful. Barth clarified the difficulty by pointing out that an independent natural theology was impossible because there is only one God who has revealed himself in Jesus Christ. Natural theology must be treated as a branch of revealed theology.

This development has an important analogy in the development of geometry in science. Greek Euclidean geometry was conceived as an axiomatic system independent of physics. Gauss and Riemann showed that Euclidean geometry was a special case of a more general geometry of curved spaces and Einstein found that the geometry of space and time was Riemannian. Thus geometry was incorporated into physics and had to be treated as an experimental subject instead of an axiomatic one.

In terms of theology, this development in physics points to the unity of form and being and it joins natural to revealed theology. It also points to the fact that natural theology must accommodate itself to the temporal singularity of the universe. Contingency requires that we study the universe according to its given nature, which is that of 'coherent singularity'. This is true both in science and in theology, both of which summon us to a disclosure of reality. Torrance's argument here is very similar to that of Polanyi.

Chapter 5, 'Theological Science', returns to the theme of parallel developments in theology and science. The three principles of Alexandrian theology discussed in Chapter 3 proved to be essential for modern natural science, but theology lost sight of them. The loss of the ideas of contingent rationality and freedom damaged theology. Science can now liberate theology, because man as scientist can be seen as the priest of creation as he identifies and names a world that is dumb without him. Natural science can be seen as a religious pursuit. Torrance illustrates this theme by three epigrams of Einstein.

The first of these is that 'God does not play dice'. This states Einstein's belief in the objective intelligibility of the universe, a belief shared by Polanyi. Torrance argues that theology must operate with the same belief. It must not be content with speaking about 'image' or 'symbol', but instead use the idea of analogy. Mythos must give way to logos. In particular Christ must be understood as the self-revelation of God; not the coming of God into man, but the coming of God as man.

Einstein's second statement that 'God does not wear his heart on his sleeve' draws attention to the inadequacy of positivism. The order of nature cannot be read-off from the phenomena. Theology faces a similar task, where we need to use 'disclosure models' rather than 'pictorial models' or 'theoretical models'.

The third epigram is 'God is deep but not devious'. The universe is essentially trustworthy. In theology, that points to hope for the future, both in a teleological and an eschatological sense. It is hope informed by the love of God as seen in the incarnation, death and resurrection of Christ. At the end of the chapter, Torrance cautions that he is not basing theology on science, but using science to provide analogies.

The final chapter of the book, 'The Basic Grammar of Theology', deals with the internal relations and intrinsic structures of theology. Torrance dismisses the bifurcation between the One God of natural theology and the Triune God of revelation. The logos must not be separated from the being of God. Nor must the being of God be separated from his action. Torrance posits three levels of understanding in theology. The basic level arises from experience and worship. The second level deals with the revelation of God as Father, Son and Holy Spirit. The

highest level arises when we seek to understand the relationships in the Godhead. At this level, we encounter the *homoousion* of the Nicene Creed and the idea of *perichoresis*, both of which throw light on the person and work of Christ. Torrance finds an analogy between this pyramidal structure of theological knowledge and scientific knowledge.

I have to confess that this chapter does not entirely convince me. That is partly due to the unfamiliar terms, but I also have misgivings about the structure of knowledge in terms of levels. However, all in all, this is a wonderfully lucid and accessible book. It is profound and scholarly and stretches one's mind. Best of all it is full of Christian faith in God and hope for the future. Here is nourishment for the spirit as well as the mind.

Percy Hammond percy@mahogany.sucs.soton.ac.uk

APPRAISAL/POLANYI CONFERENCE 2002 The Person in the 21st Century

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For information regarding conference fees and bookings and offers of papers, please contact the organiser as soon as possible.: Dr R.T. Allen, 20 Ulverscroft Rd, Loughborough, LE11 3PU, England. E-mail: rt.allen@ntlworld.com; Tel. & Fax: (44) (0) 1509 552743 http://homepage.ntlworld.com/rt.allen

Polanyi Society Membership

Tradition and Discovery is distributed to members of the Polanyi Society. This periodical supercedes a newsletter and earlier mini-journal published (with some gaps) by the Polanyi Society since the mid seventies. The Polanyi Society has members in thirteen different countries though most live in North America and the United Kingdom. The Society includes those formerly affiliated with the Polanyi group centered in the United Kingdom which published Convivium: The United Kingdom Review of Post-critical Thought. There are normally three issues of TAD each year.

Annual membership in the Polanyi Society is \$25 (\$10 for students) beginning in the fall of 2002. The membership cycle follows the academic year; subscriptions are due September 1 to Phil Mullins, Missouri Western State College, St. Joseph, 64507 (fax: 816-271-5680, e-mail: mullins@mwsc.edu). Please make checks payable to the Polanyi Society. Dues can be paid by credit card by providing the card holder's name as it appears on the card, the card number and expiration date. Changes of address and inquiries should be sent to Mullins. New members should provide the following subscription information: complete mailing address, telephone (work and home), e-mail address and/or fax number. Institutional members should identify a department to contact for billing. The Polanvi Society attempts to maintain a data base identifying persons interested in or working with Polanyi's philosophical writing. New members can contribute to this effort by writing a short description of their particular interests in Polanyi's work and any publications and /or theses/dissertations related to Polanyi's thought. Please provide complete bibliographic information. Those renewing membership are invited to include information on recent work.