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Europe as a Civilization

The Revolution of the Middle Ages & The Rise of the Universities *

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Introduction

Although "Western Civilization" has long been a commonly used term, the idea of "Europe as a Civilization," I believe, needs articulation. This requires both a serviceable definition of a "civilization" and a historically and conceptually rich analysis of the formation of the European tradition. As I shall argue, Europe in the Middle Ages underwent a radical transformation that up to the present has been inadequately understood and insufficiently articulated.

I start with the long neglected "Note on the Notion of a Civilization" published in 1913 by Emile Durkheim and Marcel Mauss.¹ In their short essay Durkheim and Mauss hit upon three seminal ideas indispensable for the new *civilizational analysis* of the last three decades. Without those insights viable criteria for classifying cultural groupings as "civilizations," or as societies, are absent. Consequently, other writers doing civilizational analysis tend to follow the pattern established by anthropologists and ethnographers who mainly try to identify any distinctive cultural group, ancient or modern, and call that group a "civilization" without utilizing the deeper analytic insights of Durkheim and Mauss. What Durkheim and Mauss noticed was that

social phenomena that are not strictly attached to a determinate social organism do exist; they extend into areas that reach beyond the national territory or they develop over periods of time that exceed the history of a single society. They have a life which is in some ways supranational.²

Here the defining criterion is a *transnational* or supranational emergence that goes beyond the original group that generated the symbolic capital. Consequently, the authors claim that, "*A civilization constitutes a kind of moral milieu encompassing a certain number of nations, each national culture being only a particular form of the whole.*"³

* An earlier draft of this paper was presented at the Conference on "The Academy and Western Civilization," St Vincent's College, Latrobe, Pa, April 11-13, 2013.

¹ Emile Durkheim and Marcel Mauss "Note on the Notion of Civilization," *Social Research* vol. 38, no. 4 (1971): 809-813; translated by Benjamin Nelson.

² Durkheim and Mauss, *ibid.*, p. 810.

³ *ibid.*, p. 811.

This is, of course, what Europe as a civilization came to be. Moreover, Durkheim and Mauss observed that not all social phenomena have the same ability to be transported, to be *universalized* to other social or national groups. They laid out a major task, still unfulfilled, which is, to explain on what this “unequal coefficient of expansion and internationalization depends.” Put differently, this idea of a “coefficient of expansion” possessed by some social phenomena suggests the striking process of *universalization*, without which civilizations and civilizational phenomena would not exist. Moreover, it is important to consider the degree to which the universalization of civilizational complexes has been a voluntary process in contrast to an imposition by an expanding empire. From today’s perspective, we know that even those civilizational complexes that have the ability to be assimilated over time and over vast stretches of territory also have their limits; and yet certain of these phenomena, whether they be described as aspects of “Westernization” or “globalization,” seem to have still more potential to expand voluntarily around the globe.

In Benjamin Nelson’s reformulation of these seminal ideas, civilizations are composed of “the governing cultural heritages of 2+n societies, territories [or] areas which generally enjoy or have enjoyed a certain proximity” to each other.⁴ Furthermore, what gives a civilization in this sense an identity is the existence of a set of shared *civilizational complexes*, such as religious commitments, legal concepts and processes, intellectual categories and modes of logic. Sometimes Nelson referred to these cultural phenomena as the “directive structures” that shape human thought and action.⁵

However, one could also refer to these internationalizing and *globalizing* transformations as contributions to “world culture” and “world polity.” Considered in this light there have already been impressive moves in this direction, attempting to describe and understand the *construction of world culture* as elements of the Western tradition became firmly established in the emerging global polity.⁶

Although the scholars working on this research program have not articulated an appropriate civilizational context, and have seriously truncated the requisite historical time frame needed to unravel these developments, they are aware of the need to “study the origins, expansion, and characteristics of the world polity,” to understand how these cultural elements evolved out of Western civilization and served to create a “coherent world culture, society, and set of institutions that might plausibly influence nation [states].” Furthermore, they are keen to explore “in which substantive areas [of] world

⁴ Nelson, “Civilizational Complexes and Intercivilizational Encounters,” *Sociological Analysis* 34, #2 (1973): 82; reprinted in Huff, editor, *On the Roads to Modernity: Conscience, Science and Civilizations. Selected Writings of Benjamin Nelson* (Lanham, MD.: Lexington Books, reprinted 2012), chapter 5.

⁵ *ibid.*, *On the Road to Modernity*, Chapter 2.

⁶ See for example, John Boli and George M. Thomas, eds., *Constructing World Culture. International Non-Governmental Organizations Since 1875* (Stanford: Stanford University Press, 1999); and Gil S. Driori, John W. Meyer, Francisco O. Ramirez, Evan Schofer, *Science in the Modern World Polity. Institutionalization and Globalization* (Stanford: Stanford University Press, 2003).

society norms [have] been clearly worked out, codified, and institutionalized."⁷ It remains to be seen how this agenda could be fulfilled without paying much more attention to the early legal foundations of international law that underlie virtually all international business and diplomatic negotiations worldwide.

Furthermore, it is evident that, though the exponents of this research program refer to "world culture," they point out that the participants recorded in the datasets of international organizations come "mainly from Europe and North America."⁸ This suggests that in fact *this* "world culture" is basically "internationalized" European culture among countries that have historically been part of "Europe overseas." The task of studying the spread of European (or global culture) to non-Western civilizational areas, to China, the Islamic world, Russia, Central Asia, and the Indian subcontinent, has hardly begun.

That said, it is evident that serious scholars with highly sophisticated methodological techniques have lent considerable currency to this effort of exploring how transnational phenomena expand across the world. The task remaining is to focus on *intercivilizational encounters* and transmissions.

In what follows, I have attempted to synthesize several strands of European history that coalesced at the core of the European experience, and in doing so, laid the foundations for Europe's institutional uniqueness and civilizational design. That was, above all, rooted in its unparalleled legal structure. Unfortunately, many scholars who have written with great insight and authority about this period have entirely neglected the singular legal history of Europe and its centrality to all the developments of that era.⁹ Hopefully in the future that history, which includes the foundational ideas of human rights, due process of law, and constitutional democracy, will not be so neglected.

The Revolution of the Middle Ages

Any broad evaluation of the social, legal, and political development of Western Europe that took place in the twelfth and thirteenth centuries will show that it witnessed sweeping legal reforms, indeed, a *revolutionary reconstruction*, of all the realms and divisions of law - feudal law, manorial law, urban law, commercial law, and royal law -

⁷ Evan Schofer and Elizabeth H. Mceneaney, "Methodological Tools for the Study of Globalization," in *ibid*, *Science in the Modern World Polity*, p. 47.

⁸ John Boli, "Globalization and World Culture," *International Encyclopedia of the Social and Behavioral Sciences* (New York: Elsevier, 2001), pp. 6261-6266 at 6261.

⁹ For this neglect, see Thomas Bisson, *The Crisis of the Twelfth Century. Power, Lordship, and the Origins of European Government* (Princeton: Princeton University Press, 2009); and Robert I. Moore, *The First European Revolution, c. 950-1215* (Oxford: Blackwell, 2000). For an appreciation of the European tradition, see Ricardo Duchesne, *The Uniqueness of Western Civilization* (Leiden/Boston: Brill, 2011).

and therewith the reconstitution of medieval European society.¹⁰ It is also true that neither Islamic law nor Chinese law passed through an equivalent radical transformation.¹¹ Consequently neither of those systems of law ever recognized the broad variety of competing legal jurisdictions found in Europe; for example, commercial, urban, public, and professional jurisdictions were recognized throughout Europe.

In any event, it is this great legal transformation that laid the foundations for the rise and autonomous development of universities, but also the pursuit of modern science, the rise of constitutionalism and parliamentary democracy, the foundations of what we know as due process of law, the very idea of elective representation in all forms of corporate bodies, the legal autonomy of cities and towns, and a vast array of additional legal forms unique to the West.

At the center of this development one finds the legal and political principle of treating *collective actors* as a *whole body* - a corporation (*universitas* is the medieval Latin term). The emergence of corporate actors was unquestionably revolutionary in that the legal theory which made them possible created a variety of new forms and powers of association that were distinctly European.

Furthermore, the legal theory of corporations brings in its train organizational principles establishing such political ideas as constitutional government, consent in political decision making, the right of political and legal representation, the powers of adjudication and jurisdiction, and even the power of autonomous legislation. Aside from the scientific revolution itself, and perhaps the Reformation, no other revolution has been as pregnant with new social and political implications as the legal revolution of the European Middle Ages. By laying out the conceptual foundations for *new institutional forms* in legal thought, it prepared the way for the two other revolutions--the scientific and the economic.

Consider for a moment what this idea of “autonomous legislation” means. It means that some public body -- some corporate entity, some group of citizens -- is capable of composing and promulgating new laws that transcend Biblical injunctions, customary law, Quranic legal prescriptions, or even edicts issued by an Emperor in China. But of course, that power of autonomous legislation did not exist either in Chinese or Islamic law of the early modern period.

¹⁰ This assessment was first announced by Harold Berman in his landmark study, *Law and Revolution. The Formation of the Western Legal Tradition* (Cambridge: Harvard University Press, 1983).

¹¹ I discussed these different legal systems in *The Rise of Early Modern Science: Islam, China and the West* (New York: Cambridge University Press, 2nd edition 2003), especially chapters 4 and 7. I am currently working on separate essays to outline these differences more completely.

Some Phases of Development

Let me now sketch out some stages of the European legal and social revolution. Because this period has not been studied *sociologically* and systematically as a case of *social, political, and intellectual revolution*, it is difficult to determine where one should begin. So let me start in AD. 1000.

Around 1000 AD commerce began to revive in southern Europe and then to spread northward. This was conjoined with the rise of commercial fairs and the rise of new cities and towns. But there was also a profound wave of economic growth in the Hanseatic cities in the north centered on Hamburg and which expanded south and eastward at the same time.¹² First, however, we need to focus on some earlier far-reaching intellectual developments.

As we may recall, back in the early 6th century A.D. the Emperor Justinian told his legal experts to radically trim down and consolidate the existing Roman legal code, and especially to prune away the unending commentary of judges and scholars. The end result was the Roman *Corpus Juris Civilis* (the Roman Civil Law) that Justinian put into effect across the empire in 529 A.D.¹³ However, the code did not fair well in the Western empire because it was collapsing. Consequently, with the collapse of the Roman Empire in the West (after 476), the *Corpus Juris Civilis* was lost, not to be recovered until about 1070 AD. But when it was found and recovered it jolted legal scholars into action.

At first the scholars did not understand it and so commentators known as the Glossators set about writing marginal commentaries, perhaps correcting grammar, explaining the new conceptual terminology, but most of all, trying to master the 2000 pages of this extraordinary legal system. But they also began teaching it. It is in the circle of these early legal scholars that we indeed find the earliest seedbeds of the universities. Notice also that these legal scholars were civilian or secular scholars who were free to move around as they were not committed to a particular town, much less a building. They were a community of scholars and students, most of whom came from outside town and

¹² Among others see Robert Bartlett, *The Making of Europe. Conquest, Colonization and Cultural Change 950-1350* (Princeton: Princeton University Press, 1993), pp. 292ff.

¹³ See among others, Aldo Schiavone, *The Invention of Law in the West* (Cambridge: Harvard University Press, 2012); James Brundage, *The Medieval Origins of the Legal Professions. Canonists, Civilians, and Courts* (Chicago: University of Chicago Press, 2008); idem, "The Teaching and Study of Canon Law in the Law Schools," pp. 98-120 in the *History of Medieval Canon Law in the Classical Period, 1140-1234*," edited by Wilfried and Hartmann and Kenneth Pennington (Washington: Catholic University Press of America, 2008); Michael Hoeltlich and Jasonne M. Grabler, "The Establishment of Normative Legal texts. The Beginning of the *Ius Commune*," pp. 1-21 in *ibid. History of Medieval Canon Law*; Charles Radding, "Legal Science 1000-1200. The Invention of a Discipline," *Rivista di storia del diritto italiano* 63 (1990): 409-32; and Judith Herren, "Roman Law," in Herren, *Byzantium. The Surprising Life of a Medieval Empire* (Princeton: Princeton University Press, 2007), pp. 70-79.

even outside Italy. They could move on a moment's notice to another town where social, legal, and economic conditions might be better.¹⁴

By 1200 these legal scholars had become a distinct literate class of specialists; they had mastered the Roman legal corpus, and in a great many ways, had modified, systematized and transformed it into a new legal science which was now to be taught for the first time in universities across Europe. The initial leading center of this new science of law was at the university in Bologna. There, legal scholars taught the new science focused on secular issues and everyday social and economic causes.

But at the same time, a scholar and monk by the name of *Gratian* took it upon himself to rethink the whole great amorphous body of laws then known to him, and to create what he called a *Harmony of Discordant Canons*-- first issued in about 1140. Here the word *canons* simply means "rules," but especially rules that had been adopted by the Christian Church, which in a very short period of time became a standard legal text used all across Europe, though the Church never officially promulgated it.

What Gratian had done was to collect legal texts from Church councils, papal letters, the writings of Church Fathers, passages from the Bible, and a host of secular sources such as Roman and German law. His great effort was designed to point out the contradictions in these legal rules, to remove them, and to find the underlying legal principles that ought to prevail.

All of this is an example of what the great German sociologist, Max Weber (and many other scholars) called the rationalization process; i. e., the process by which legal rules and procedures were made more coherent, consistent, and rationally explicable.

So now Europeans had a new legal science based on new texts, all of which became what legal historians call the *ius commune*, the common law of Europe that began to spread from south to north, to Germany, Britain and Scandinavia. Moreover, law students across Europe now had to learn both the Canon Law and Civil law, because (1) the Church universal had courts all across Europe, and (2) lawyers specializing in the civil law might be called upon to defend a case in an ecclesiastical court.

Here then we have the first and second legs of this medieval revolution. First we have a new legal science that was being taught in the free floating schools (later universities) and applied across Europe in both secular and ecclesiastical courts. To the degree that

¹⁴ On the complicated early history of this university, see J. K. Hyde, "Commune, University, and Society in Early Medieval Bologna," pp., 17- 46 in *Universities in Politics. Case Studies from the Late Middle Ages and Early Modern Period*, edited with an Introduction by John W. Baldwin and Richard Goldwaithe (Baltimore: Johns Hopkins University Press, 1972); and Hastings Rashdall, *The Universities of Europe in the Middle Ages. A New Edition in three volumes* edited by F. M. Powicke and A.B. Emden Oxford: Clarendon Press, 1936).

this new legal system established new institutional foundations for the emerging European civilization, it was legal scholars in the schools who underwrote this whole development.

Second, the medieval legists recognized the legal rights of collective actors, that is, legally *autonomous entities*, sometimes called "fictive personalities." Among these we find cities and towns, charitable organizations, professional associations of doctors and lawyers, as well as merchant guilds-- all of which could create their own rules and regulations. These new entities were treated as collective individuals, and they had a whole new bundle of rights: the right to own property, to sue and be sued, to make their own rules and regulations, i.e. to act as legislative entities. Such entities had the right to be represented by attorneys in courts, and before the king's court regarding taxation.¹⁵

Furthermore, these entities were said to be governed by the principle of, "*what concerns all should be considered and approved by all*" -- a Roman maxim.¹⁶ While today we think of corporations as primarily significant for commercial enterprises, their original impact was in the sphere of public law, where their presence radically transformed the whole basis of political, constitutional and economic life in Europe. For it was the presence of these new entities that established the foundations for parliamentary democracy. Indeed, the first European parliament was founded in 1188 in Spain quickly followed by many other regional parliaments in Spain, then in Portugal, Sicily, southern France, Paris in 1298, then the Estates General in 1302 as parliaments became a pan-European institution.¹⁷ Indeed, the effort to establish constitutional regimes in which the people were deemed to have a legitimate voice was a great struggle carried on broadly across Europe from the Middle Ages onward with the final culmination in the revolutionary new political thought of Scotland, Holland, France and then England in the 16th and 17th centuries.¹⁸

Third, the canonists and civilians established new principles of due process of law that applied to all individuals who were involved in legal proceedings. By the end of the 12th century this new system had been formally articulated as the *ordo iudiciarius* (the

¹⁵ See Gaines Post, *Studies in Medieval Legal Thought. Public Law and the State, 1100-1322*. (Princeton University Press, 1964); and Berman, *Law and Revolution*. (Cambridge: Harvard University Press, 1983), pp. 214-221.

¹⁶ Berman, *Law and Revolution*, especially p. 221; and Gaines Post, *Studies in Medieval Legal Thought*, chapter 4, and pp. 51ff.

¹⁷ See Jan Luiten van Zanden, Eltjo Buringh and Maarten Bosker, "The Rise and Decline of European Parliaments, 1189-1789," *The Economic History Review* 65 #3 (2012): 835-861; and also Joseph Strayer, *The Medieval Origins of the State* (Princeton: Princeton University Press, 1970).

¹⁸ This path has been traced out by, among others, Quentin Skinner, *The Foundations of Modern Political Thought* (New York: Cambridge University Press, 1979), esp. v. 2.; and Philip S. Gorski, "Calvinism and Revolution. The Walzer Thesis Reconsidered," pp. 78-104 in *Meaning and Modernity: Religion, Polity and Self*, edited Richard Madsen, et. al. (Berkeley: University of California Press, 2001).

system of legal procedures).¹⁹ According to this legal doctrine (which was established in court cases and Papal decretals), every trial must involve a plaintiff and a defendant, advocates for those two parties, the appearance of witnesses, the presence of court recorders such as clerks, proctors and notaries who record the names of those present at the trial, what each person said, and if written evidence were presented, it too would be redacted into the court record. Again, this was established legal procedure by the end of the 12th century-- all worked out by legal scholars usually attached to the schools and emerging universities. Such formal legal procedures did not exist in Islamic or Chinese law then or later.²⁰

In addition, the procedures established the right of any accused person to be notified of a complaint, the *right* to appear in court and testify, and, above all, to be represented by a legal expert. By 1200 it was firmly established that anyone appearing in a court could elect to have legal assistance and was well advised to do so. But if he did not do so he was forewarned, as one writer put it in 1169

If someone is brash enough to presume to rely on his own devices even though he is inexperienced and does not wish to have an advocate, let him do so. Everyone is free to muck up his own case.²¹

Here then we have the outline and details of due process of law, assumed to be universal, that must be applied in all legal proceedings -- all set out by the end of the 12th century.

But -- fourth-- this process went even further toward the establishment of additional legal principles that applied to the Prince and Pope alike. The most important case establishing that these principles applied to the Prince as well as ordinary citizens concerned King Henry of Luxemburg and Robert of Naples. In 1311 King Henry moved to be crowned Emperor of the Holy Roman empire and in doing so intended to displace Robert of Naples and his kingdom. In the process Henry condemned King

¹⁹ Among others see Pennington, *The Prince and Law: 1200-1600: Sovereignty and Rights in the Western Legal Tradition* (Berkeley: University of California Press, 1993); Susan Reynolds, "The Emergence of Professional Law in the Long Twelfth Century," *Law and History Review* 21 #2 (2003): 347-366; Brundage, *Medieval Canon Law* (London: Longman, 1995): 205.

²⁰ I have set out some of these strong differences in "The Rise of Europe and Institutional Divergence," Paper presented to the University of Zurich (Applied History Lecture: The European Miracle. Vorlesungen über die Europäische Epoche der Welt), October 18, 2012. For the complete absence of such formal safe guards of due process in contemporary China, see the August 2012 case of Madame Gu, accused of murdering a British business man. At her trial her lawyers were removed, no defense was possible, and no court recordings (written or voice) were permitted. Andrew Jacobs, "Fast-Paced Trial in China Leaves Shadows," *New York Times*, August 9, 2012, p.1.

²¹ Brundage, *The Medieval Origins of the Legal Profession*, p.152.

Robert, declaring him to be a traitor and an outlaw to the Empire. Pope Clement V did not agree with these declarations and tried to mediate between the two parties.²²

Luckily-- or unluckily-- Henry died (in 1313) before he could move to displace Robert forcefully; but Pope Clement V stepped forward with legal opinions curtailing such presumptuous condemnation of an adversary. The Pope solicited opinions from the best legal scholars and all of them averred that the right of self-defense, both physical and legal, was a right granted by natural law and it could not be taken away. Hence King Henry's rulings were without merit and were annulled. Furthermore, Pope Clement went on to issue several more legislative rulings, clearly stating what due process of law entails and how it must not be abridged. In his final ruling, indeed a constitutional document called *Saepe contingit*, he established these principles, which of necessity must be upheld by the Prince. Legal scholars have concurred that this legal ruling of the very early 14th century was "the most important single piece of medieval legislation in the history of summary judicial procedure."²³

In a word, by the opening of the 14th century, European law had established legal principles restricting the actions of the Prince, but not only that, the Pope. The principle that the Pope too is subject to natural law and may not abridge a defendant's right of self-defense was established in a notorious case involving the Medici's and the attempt of the Pazzi family to eliminate them violently. The result was that Pope Sixtus IV (who had condemned Lorenzo de Medici without a trial) had to back down while acknowledging that, just as Adam of the Bible had to respond to God's summons to judgment, so too "neither Pope nor Prince could dispense with this part of the judicial process because no one can ignore a precept of divine law."²⁴ In other words, the earlier legal principles that restricted the actions of the Prince applied in the same way to the

²² This case has been spelled out in considerable detail by Kenneth Pennington in "Due Process, Community, and the Prince in the Evolution of the *Ordo iudicarius*," *Rivista internazionale di diritto commune*," 9 (1998): 9-47; and Pennington, *The Prince and the Law, 1200-1600: Sovereignty and Rights in the Western Legal Tradition*.

²³ Stephan Kuttner, "The Date of the Constitution 'Saepe'...", *Melanges Eugène Tisserant IV* (1964): 427-452, p. 427. Technically, the ruling concerned "Summary proceedings" which are special proceedings held in unusual circumstances, possibly entailing threats of violence and or public harm.

²⁴ This is the judgment of the 15th century legal scholar Francesco Accoli, said to be the greatest legal scholar of his time; as paraphrased by Pennington, *The Prince and the Law. Sovereignty and Rights in the Western Legal Tradition*, p.188. Also see Lauro Martines, *April Blood. Florence and the Plot Against the Medici* (Oxford, 2003).

This case occurred in 1478 and concerns what has been called the Pazzi Conspiracy. This bloody episode took place in April 1478 when members of the very wealthy Florentine banking family, the Pazzi's, tried to assassinate the Medici's while in Church on a Sunday. They did kill one of the Medici brothers in the Cathedral, but the leader of the family, Lorenzo the Magnificent, escaped and proceeded to declare war on his enemies, including the Papal State. However, some of his supporters kidnapped an Archbishop, who was soon hanged. Pope Sixtus IV summarily condemned and excommunicated Lorenzo without a trial, despite Lorenzo's claim that he was innocent.

Pope. Neither he nor the Prince could issue summary judgments without actually holding a trial. Here again we find unique European contributions to international legal development and above all, the idea of legal restraints on the highest officials.

Now in recounting this legal history I do not suggest that the people of Florence in the 15th century were particularly law abiding -- they most definitely were not. Nevertheless, a precedent had been established and future rulers who wished to be regarded as lawful occupants of elective or appointed office had to abide by such rules. Of course, it took time for the rule of law as we understand it to become widely and deeply established; nevertheless, the institutional apparatus had been constructed, civil and ecclesiastical courts had been established all across Western Europe. And let us not forget that the lords of England forced King John of England to submit to the *Magna Carta* (in 1215) which, likewise, restricted his sovereign powers and required the establishment of a jury system for legal proceedings.

Law, Commerce, and Self-government

Before we get to the universities more directly, it is important to note that the revolution of the Middle Ages that I announced at the outset, was indeed a society- or civilization-wide transformation. This new legal regime had powerful implications for every aspect of social, political, and economic action, so I need to say something about the impact on ordinary business transactions. Of course, the new legal science, both Canon and Civil, spread unevenly across western Europe, but the trend and result is clear.

As we know, it is imperative for those engaged in business dealings that they have a secure sense of their rights to ownership, the possibility of regulating trade, and the availability of legal officials who can authoritatively adjudicate business conflicts. As legal scholars know, the very foundations of business transactions establish what are sometimes tedious conceptions that set out what kinds of transactions can be carried out, the limits of individual and collective action, what happens to collective assets when people die, and so on.

What happens, for example, if a business partner dies? Islamic law dictates that if any partner dies or withdraws, the partnership and the enterprise completely dissolves,²⁵ whereas European business partnerships and corporations have lives of their own.

Moreover, economic historians have shown that during this same period of time, the 12th and 13th centuries, and especially in Holland and the Low countries, villages and urban conclaves were forming in which people were acting collectively to self-govern,

²⁵ The classical statement of these rules is Abraham Udovitch, *Partnership and Profit in Medieval Islam* (Princeton: Princeton University Press, 1970). For further analysis of the effect of these restrictions on economic development see Timur Kuran, *The Long Divergence. How Islamic Law Held Back the Middle East* ((Princeton: Princeton University Press, 2012).

to regulate collectively-owned grazing grounds known as "the commons," to regulate grinding mills, riverways, and other assets that were considered jointly owned by the community. Such communities formed their own judicial bodies; bought, sold and rented property; hired clerks, even an occasional police officer and other agents who worked for the collective public enterprise.²⁶

To us moderns this seems normal, but the fact is that this kind of legitimate communal self-organization, bound by law with articulated rights and prerogatives, was a wholly new thing not witnessed elsewhere. This whole new legal arrangement proved to be a boon to the rise of early modern capitalism, to the whole commercial revolution of the 13th century and 14th centuries that would include all sorts of new collective trading entities. These would include extra-familial firms (otherwise known as legally recognized companies), as well as joint stock companies and formally organized banks whose records constituted legal documents available to public scrutiny.²⁷ Clearly, the legal revolution of this time had very far reaching consequences for political, economic, and intellectual development.

Indeed, recent scholarship has added considerable weight to the assertion that Europe's legal revolution in all its dimensions contributed measurably to the economic ascendance of Europe in the early modern period in comparison to other parts of the world.²⁸ Whether one attributes a causal link between the new legal science or the rise of the universities and the teaching of the new legal system, the evidence suggests that the availability of the new legal conceptions, lawyers, and courts greatly facilitated economic growth in Germany and other parts of western Europe.²⁹

²⁶ Among others, see Tina De Moor, "The Silent Revolution: A New Perspective on the Emergence of Commons, Guilds, and Other Forms of Corporate Collective Action in Western Europe," *International Review of Social History* 53: 179- 212; Bas van Bavel, "The Medieval Origins of Capitalism in the Netherlands," *BMCN/LCHR* (2010) v. 125: 45-79, especially pp. 60-66; and idem, *Manors and Markets. Economy and Society in the Low Countries, 500-1600* (Oxford University Press, 2010), pp. 93-99.

²⁷ In addition to Bavel's work noted above, see R. Lopes, *The Commercial Revolution, 950-1350* (Cambridge University Press, 1977); Raymond de Roover, "The Commercial Revolution of the Thirteenth Century," in *Enterprise and Secular Change: Readings in Economic History*, edited by Frederic Lane and Jelle C. Riemersma (American Economic Association, 1953): 80-85; idem, "The Organization of Trade," chapter 3 in the *Cambridge Economic History of Europe* (New York: Cambridge University Press, 1953); Abbott Usher, "The Origins of Banking: The Primitive Bank of Deposit, 1200-1600," *The Economic History Review* 4 #4 (1934): 399-428.

²⁸ For estimates of world economic development, see Angus Maddison, *Historical Statistics of the World Economy, 1-2008* (<http://ggdc.net/maddison/Maddison.htm>)

²⁹ For a test of the proposition that legal rules and legal scholarship had an impact on European economic development see Davide Cantoni and Noam Yuchtman, "Medieval Universities, Legal Institutions and the Commercial Revolution," NBER Working Paper 17979 (<http://nber.org/papers/w17979>); and Hans-Bernd Schäfer and Alexander J. Wulf, "Jurists, Clerics and Merchants. The Rise of Learned Law in Medieval Europe and Its Impact on Economic Growth," (<http://ssrn.com/abstract=2242110>) (2013).

Universities and the Scientific Agenda

As the previous discussion has suggested, the universities were both a product of, and agents of the great legal revolution that swept across Europe during this era. Ever since the late 19th century, scholars have referred to this great revival and renewal as "The Renaissance of the Twelfth Century."³⁰ One aspect of that renaissance was the rise of the universities which was the product of a demographic and educational revolution that has no better description than the following:

At the beginning of the century [i.e., 1100], numerous urban schools appeared in Western Europe to challenge the supremacy [that] monastic schools had enjoyed since the early Middle Ages. These new schools dominated the intellectual scene until the beginning of the next century, when those at Bologna and Paris were transmuted into universities.³¹

We should recall that the Cathedral schools taught the seven liberal arts (i.e., grammar, rhetoric, and logic along with arithmetic, geometry, music and, astronomy), but a new crop of scholars, drawn from all over Europe began traveling to the centers of learning, usually the cathedral schools where they had heard outstanding scholars were teaching. This movement had begun in the 11th century, but in the early 12th we have many reports of outstanding scholars, in small towns around the periphery of Paris (such as Chartres, Laon, Reims), who were attracting these foreign visitors. It is said that the students "traveled to hear of new techniques and new texts, [as well as] the manner of applying them to the study of law, medicine, the Bible, or the nature of the physical"³² world. On the one hand, we have these young people showing up uninvited to study with a learned master, causing a certain amount of conflict and friction with the local townspeople in the context of the need for food, lodging and of course, drink.

On the other hand, some of the scholars themselves, including some of the tutors of the aspiring students, had ambitions to create their own following and set about doing so by challenging the masters in the cathedral schools. The most famous of such people we usually hear of was Peter Abelard (d. 1142), who first challenged Master Anselm at his school in Laon (about 30 miles outside Paris). When that did not work, he set about

³⁰ Charles Homer Haskins, *The Renaissance of the Twelfth Century* (Cambridge: Harvard University Press, 1927); Hastings Rashdall, *The Universities of Europe in the Middle Ages. New Edition in Three Volumes* edited by F. M. Powicke and A. B. Emden (Oxford; Oxford University Press, 1936), especially volume 1.

³¹ John W. Baldwin, "Masters at Paris 1179 to 1215: A Social perspective," pp. 138-170 in *Renaissance and Renewal in the Twelfth Century*, edited by Robert L. Benson and Giles Constable with Carol D. Lanham (reprinted, Toronto: University of Toronto Press, 1991).

³² R. W. Southern, "The Schools of Paris and the School of Chartres," pp.113-137 in *Renaissance and Renewal*, at pp. 116.

making his name in Paris, starting in about 1098, by attempting to dispute and displace William of Champaux who was the leading scholar at the school of Notre Dame.

Abelard was just one of many outstanding scholars who emerged during this time and challenged the authorities with regard to every aspect of religious and classical learning. Abelard is, of course, the author of the famous *Sic & Non*-- "Yes and No"-- treatise that listed many opinions of the Church fathers and other religious texts which were clearly in conflict with each other. Some of the scholars of the time thought Abelard was just being a skeptic, undermining Church authority, whereas his real mission, he claimed, was to get to the truth, to use dialectic and the tools of reason and logic to sort out the truths of faith. As many scholars have pointed out, this band of philosophers around Paris transformed theology into "the queen of the sciences."

Among the pioneers of this movement one finds Master Bernard of Chartres (d. after 1115); Anselm of Canterbury (1033-1109); John of Salisbury (d. 1180); Hugh of St. Victor (ca. 1096-1141); and Peter Lombard (d. ca. 1160). This story of the transformation of Christian religious thought into systematic theology has been told by many scholars.³³ The thrust of this transformation, beginning in the late 11th century, is revealed by Anselm of Canterbury's bold move to use reason to demonstrate the truth of faith and to transcend the authority of Scripture. Anselm said that he took this path because of the request of fellow monks; and so he composed a treatise,

in order that nothing in Scripture should be urged on the authority of Scripture itself, but that whatever the conclusion of independent investigation should declare to be true, in an unadorned style, with common proofs and with a simple argument, be briefly enforced by the cogency of reason, and plainly expounded in the light of truth.³⁴

This ascendancy of rational argument over the plain simplicity of the Scriptures never emerged in Islamic religious thought and still remains an impediment to religious innovation in Islam.³⁵

³³ Among others see M-D. Chenu, *Man, Nature and Society in the 12th Century* (Chicago, University of Chicago Press, 1968), "From Text to Sacred Doctrine," pp. 279- 91; David Knowles, *The Evolution of Medieval Thought* (New York: Vintage, 1962); also Edward Grant, *God and Reason in the Middle Ages* (New York: Cambridge University Press, 2001), chapter 6; F. Copleston, *A History of Philosophy*, v. 2., *Medieval Philosophy* (New York: Doubleday, 1962). Also Etienne Gilson, *The Philosophy of St. Thomas Aquinas*, is another version of this transformation; see his chapter 2, "Faith and Reason," <http://www.u.arizona.edu/~aversa/scholastic/gilson/>

³⁴ St. Anselm, *Proslogium; Monologium; An Appendix in Behalf of the Fool Guanilon; and Cur Homo*, as cited in Grant, *God and Reason*, p. 54.

³⁵ The fundamental problem is that *kalam*, "theology," was never freed from subservience to *fiqh*, the strict legal interpretation of the tenants of Islam. It was not destined to become, as in Christianity, the *queen* of the sciences. See Huff, *The Rise of Early Modern Science*, pp. 110-11; and Huff, "Reformation in Islam?" *Society*, 44, Number 5 (July/Aug) 2007: 62-69. The stagnation of Islamic theological thought

Still another powerful spur to this rationalistic strand in Christian religious thought is found in Peter Lombard's "Sentences" (ca. 1150), pointing the way toward reconciling biblical passages with philosophical questioning. Subsequently his theological reflections became the most cited text for the next several centuries, all the way to Luther who also commented on it.³⁶

In this sense, the 12th century witnessed a multidimensional intellectual revolution, including a "theological revolution," as scholars emerged who pioneered new ways of thinking about every aspect of law, religion and the natural world using the tools reason and logic. The result was the gathering of many students in places like Paris, which in turn attracted more scholars who created their own following of students. Nevertheless, these scholars and their students remained outside the control of the official schools sponsored by the cathedrals. These itinerant scholars coopted the teaching of many subjects, bringing new methods to bear, taking the educational process out of the hands of church officials who had dominated education up to that point.

As a floating community of scholars with lots of student followers, they could easily move on, leave Paris, or a particular location, if Church officials tried to interfere or if the locals (landlords, shopkeepers and restaurant owners) treated them or their students badly, which did happen from time to time. It was out of this fear of such flight that officials in Bologna enacted laws forcing scholars to swear an oath that they would not leave town.

What became the University of Paris was this floating community of scholars and their students (perhaps 2-3000 students at the end of the 12th century) who quietly banded together forming a corporation -- a *universitas* or a *studium generale* and that gave it a perpetual state of legal autonomy.³⁷ With their experts on Civil and Canon law among them, the scholars knew how to use the legal instruments of the day, and thus used them to garner the masters a broad bundle of rights, such as the ability to make their own rules and regulations, to establish matters of curriculum, to sue and be sued, and of course to own property-- and much more.

Furthermore, whenever public conflicts arose the King and other officials, including the Pope, were eager to confirm the rights and privileges of these scholars, for they brought fame and recognition for Paris and to the Church. The King did so by granting various charters to the scholars that gave them privileges and immunities that also compensated

is also stressed by Fazlur Rahman, *Islam and Modernity* (Chicago: University of Chicago Press, 1982), p. 151-54; just as Islamic ethics were aborted, *ibid.*, pp.154ff.

³⁶ Among others see Philip Rosemann, *Peter Lombard* (Oxford: Oxford University Press, 2004); M. Colish, *Peter Lombard* (Leiden: E. J. Brill, 1994) 2 vols; Grant, *God and Reason*, pp. 209- 212.

³⁷ Gaines Post, "Parisian Masters as a Corporation, 1200-1246" in *Studies in Medieval Legal Thought*, Chapter 1.

for being foreigners with diminished legal rights, though they did have what is called the *benefit of clergy*. These privileges and immunities included exemption from local taxes, freedom to teach and to move about in the city, and perhaps most important of all, immunity from the obligation to pay the unpaid bills of a countryman who had left the city in debt. Not least of all was the right to be tried in an ecclesiastical court if one should be arrested for a misdemeanor or more serious offense.

In brief, the University of Paris evolved into the most prestigious university of its time in Europe and became a model for others. Of course, there were many other patterns and different universities specialized more in one subject than another, but in all cases, whether establishing a new law school or a new medical college the same legal structures were put into place, granting the new freedoms of inquiry while encouraging the perfection of the new modes of thought that were blossoming all across Europe. From the 12th century onward to the middle of the 17th century, there was a continuous rise in the founding of universities all across Europe. If one plots the number of these institutions across Europe from that time, one will get a graph with a line rising at a step forty-five degree angle.³⁸ It was a European-wide phenomenon.

The New Curriculum

Let us take a closer look at the curriculum that began to emerge as these new educational institutions formed across Europe. In Paris the Masters created four Faculties: the Faculty of Theology, that of Law, Medicine, and the Arts. While Paris was preeminent in the teaching of Theology, Bologna outshone it in Law, and in Medicine the university in Montpellier has generally been rated higher. Nevertheless, the great scholars in logic, philosophy, and theology in Paris carried the day in refashioning the arts curriculum so that in fact, the study of the natural sciences stood out.

In effect, the longstanding Arts curriculum (composed of the *trivium* and *quadrivium*) was transformed into the Three Philosophies: Moral Philosophy (or Ethics), Metaphysics, and Natural Philosophy.³⁹ This adaptation was an equally transformative outcome that reorganized the old Arts curriculum of the cathedral schools into a progressive and indeed, scientific new orientation. It did this by introducing into the curriculum the so-called "New Aristotle" and especially his natural books. What the Europeans did was to institutionalize a whole new curriculum of naturalistic studies. These inquiries raised all sorts of questions about the natural world. The same method of compiling questions and working out answers that had been used in the study of Law and Theology was now employed with equal vigor in the study of the natural world.

³⁸ Phyllis Riddle, "Political Authority and University Formation in Europe, 1200-1800," *Sociological Perspectives* 36 #1 (1993): 45-62, at p. 54.

³⁹ See Grant, *The Foundations of Modern Science in the Middle Ages* (New York: Cambridge University Press, 1996), esp. pp.47ff.

For example, in naturalistic studies scholars asked "whether the world is round... whether the earth moves... whether it is possible that other worlds exist,...whether the existence of a vacuum is possible," etc.⁴⁰ What the founders of the new universities did was to place at the center of this new curriculum the natural books of Aristotle which included his *Physics*, his books *On the Heavens*, *On Generation and Corruption*, *On the Soul*, *Meteorology*, *The Small Works on Natural Things*, as well as biological works such as *The History of Animals*, *The Parts of Animals*, and *The Generation of Animals*. It is with these books, Ed Grant observed, that we find "the treatises that formed the comprehensive foundation for the medieval conception of the physical world and its operation."⁴¹ This was indeed a core experience that was essentially scientific. Put differently, the Europeans institutionalized the study of the natural world by making it the central core of the university curriculum.⁴²

Moreover, this curriculum was unique in the educational history of the world because the Muslim world prohibited the introduction of Aristotle's natural books into the center of its teachings in the madrasas, while the Chinese did not have a philosophical tradition equivalent to Aristotle's natural books; nor did it mandate the study of naturalistic questions for the state-sponsored Civil Service Examinations that served to select scholars to become government officials.⁴³

Despite the impressive reorganization of higher learning in Europe during this era, some have claimed that the medieval and early modern universities inhibited the study and pursuit of science; yet when we look at this question from a *comparative and civilizational* point of view, there is no evidence of such retardation. By and large those who have raised these criticisms have based their claims on a faulty understanding of Aristotle and his work, and on anachronistic and unrealistic comparisons between medieval and modern universities. More plainly, the comparisons have been made on the basis of caricatures of medieval scholars rather than what the leading intellectuals actually laid out.

Moreover, if one looks carefully at the record, one will see that there is a direct continuity between many of the questions raised by the 12th and 13th century naturalists and the experimental pursuits that were carried out in the 17th century during the scientific revolution. These included experiments with magnetism and the discovery of

⁴⁰ For the long list of such naturalistic questions, see Grant, *A Source Book in Medieval Science* (Cambridge: Harvard University Press, 1974), pp. 199-209.

⁴¹ Edward Grant, "Science and the Medieval Universities," in *Rebirth, Reform, and Resilience*, p. 78.

⁴² J. A. Weisheipl, "Science in the Thirteenth Century," in the *History of the University of Oxford*, edited by J. I. Cato (Oxford: Clarendon Press, 1984), pp. 435-469, at 438-39. This is a revised and expanded edition of "Curriculum of the Faculty of Arts at Oxford in the early Fourteenth Century," *Medieval Studies* 26 (1964): 143- 185.

⁴³ See Huff, *Intellectual Curiosity and the Scientific Revolution. A Global Perspective* (New York: Cambridge University Press, 2010), chapter 4; and Benjamin Elman, *A Cultural History of Civil Service Examinations in Late Imperial China* (Berkeley: University of California Press, 1994).

electricity, the study of pneumatics, air pumps, and the vacuum, and of course, all the post mortem examinations of human bodies that had been going on in universities across Europe since the 13th century (and earlier),⁴⁴ and were also encouraged even by Church officials.

If we look at the actual comparative and historical record,⁴⁵ what we find is that the teachings of the universities from the 12th century onwards served to inculcate a spirit of scientific inquiry-- that is, it instilled a fundamental intellectual curiosity that was to persist all the way to the present, while conversely, that same spirit of innovative inquiry did not take hold outside of Europe. In the case of European universities, one might even suggest that the effect of studying natural philosophy there, in the period leading up to 1600, was so strong that many of the pioneers of the 17th century revolution were highly educated laymen, not scholars attached to the universities. This is not to suggest that the universities of Europe had become less important, but rather that the ethos of science had jumped the bounds of strict university identification. This assertion regarding the effects of the medieval universities on scientific innovation might seem a controversial proposition, so consider the following test.

A Test Case

A few years back I came up with what I see as an acid test of this proposition. It concerns the invention of the telescope by a Dutchman in 1608. Just as soon as this invention appeared, people like Galileo, but not only he, quickly saw its importance for astronomical inquiry. It was in fact a *discovery machine*, though of course it had to be improved (as it was) and focused on new astronomical phenomena, which is what Europeans did throughout the 17th century as the scientific revolution unfolded.

As we recall, Galileo used the telescope to discover the rough cratered surface of the Moon, the four satellites of Jupiter, the phases of Venus, and a bold conjecture about the rings of Saturn. Consequently, the arrival of the telescope and Galileo's early astronomical announcement of his discoveries (in 1610) set Europeans on fire with excitement. They wanted to know, are these claims of Galileo true or mere fabrications? So other astronomers, religious scholars, merchants, and ambassadors quickly acquired their own telescopes and set about testing Galileo's claims. Within a year of Galileo's announcement (it was called the *Starry Messenger*), all of these

⁴⁴ For an overview of European medical education and postmortem examinations, see Huff, *The Rise of Early Modern Science: Islam, China and the West* (New York: Cambridge University Press, 1993/2003), pp.189-208

⁴⁵ The direct connection between the medieval Aristotelian study of the science of motion and Galileo has been traced out by Marshall Clagett, *The Science of Mechanics in the Middle Ages* (Madison: Wisconsin University Press, 1959); and Ernest Moody, "Galileo and Avempace: Dynamics of the Leaning Tower Experiments," in *Roots of Scientific Thought: A Cultural Perspective*, edited by Philip Wiener and A. Noland (New York: Basic Books, 1957), pp. 176-206; and idem, "Galileo and His Precursors," in *Galileo Reappraised*, edited by Carlo Golino (Berkeley: University of California Press, 1966), pp. 23-43.

discoveries had been confirmed both by other scholars and Church officials. What was controversial was the claim that these surprisingly results -- the cratered surface of the Moon, the Satellites of Jupiter and the phases of Venus-- were fully supportive of the Copernican worldview, which they were.

Some Church officials disputed that, but they did not dispute the observational reports of Galileo that Roman College officials themselves had seen. Indeed, Galileo was feted at the Roman College in 1611, some time before religious reactionaries who knew nothing of Galileo's work raised a number of fundamental metaphysical concerns. The controversy went on for some time but the fact remains that the telescope's arrival provoked a new series of inquiries all over Europe, and this led to the transformation of the practice of astronomy, turning it from a slow plodding inquiry into a new science looking for more astronomical discoveries. And of course there was a race to make bigger, more powerful telescopes.⁴⁶

But then, we ask the question, what if the telescope were taken to other parts of the world, to China, India and the Ottoman Empire in these same early years of the 17th century? As I have spelled out elsewhere,⁴⁷ nothing happened. Telescopes became available all over Mughal India from 1615 onward; Europeans translated a report on Galileo's observations into Chinese and published it in Peking in that same year, while a new (Keplerian) telescope arrived in China in 1619; and we know that telescopes were available all over the Ottoman Empire as early as 1630 when a European merchant was executed for looking at the Royal harem with his telescope.

Yet neither the Chinese (with lots of tutoring by the Christian missionaries), nor the Mughals, nor the Ottomans found the telescope to be particularly useful as a scientific instrument. Neither did they make any improvements on the telescope or use it in any way to advance the science of astronomy as practiced in those civilizations.

This contrasting set of outcomes I attribute to the very different educational systems of Europe in comparison to China and the Muslim world. As I noted earlier, it was the unique Europe commitment to the study of the natural world that resulted in the instilling of a broad sense of intellectual curiosity that made the difference. Nothing like the broad scope of naturalistic curiosity among the Europeans was instilled in the Islamic madrassas or in the Chinese cram schools designed to teach students to memorize thousands of Chinese characters in order to pass the standard Neo-Confucian state Civil Service Examinations.

Now someone might say, well this is just a one-off situation concerning astronomy. So I looked at a half dozen other fields of inquiry: optics, anatomy, microscopy, hydraulics

⁴⁶ See Huff, *Intellectual Curiosity*, chapters 2 and 3.

⁴⁷ *ibid.*, chapters 4-5

and pneumatics, and electric studies. Here again we find no advances in those fields outside of Europe in the 17th and 18th century.

If one were to make a roster of outstanding contributors to the leading edge of the scientific transformation in Europe in the 17th century and sought counterpart achievements in other parts of the world, there would be no equivalent to the advances in astronomy of Galileo, Kepler, Descartes, Huygens, or Newton; in electrical studies, no William Gilbert, Otto von Guericke, or Francis Hawksbee; in pneumatics and hydraulics no Torricelli, Blaise Pascal, Robert Hooke, or Robert Boyle; nor any counterpart in microscopy and anatomy to William Harvey, Marcello Malpighi, Regnier de Graaf, Jan Swammerdam, or Antoni Leeuwenheock. This is the short list of stellar scientific pioneers but it makes our point.

Now I do not make these assertions in order to tout the extraordinary European advances that should be well-known, but rather to correct false impressions that are conveyed by revisionist titles such as *Islamic Science and the Making of European Renaissance*;⁴⁸ *The House of Wisdom: How Arabic Science Saved Ancient Knowledge and Gave us the Renaissance*;⁴⁹ *The Eastern Origins of Western Civilization*;⁵⁰ or *The Central Asian Origins of Science in the Medieval World*.⁵¹ Both old and young readers will no doubt be impressed by these overstated titles that bear little resemblance to the historical record.

Instead of writing improbable books about the "Eastern" sources of the West, scholars ought to be probing far more seriously the nature of the Islamic tradition, Confucianism, Buddhism, and Hinduism and asking probing questions: not just why these traditions did not give rise to modern science, but also why they did not give rise to modern constitutionalism, parliamentary democracy, due process of law, the concept of human rights and the public sphere supporting freedom of expression. Clearly Western Europe did emerge as a civilizational entity at the heart of which are a unique set of cultural and institutional structures that set it off from other civilizational entities across the world. Those with interests in comparative civilizational studies can surely find an abundance of comparative topics to study here.

⁴⁸ George Saliba, *Islamic Science and the Making of European Renaissance* (Cambridge: MIT Press, 2007). My review of that book, *The Middle East Quarterly*, 15 #4 (2008): 77-79.

⁴⁹ Jim Khalili, *The House of Wisdom: How Arabic Science Saved Ancient Knowledge and Gave us the Renaissance* (London: Penguin Press, 2010).

⁵⁰ John H Hobson, *The Eastern Origins of Western Civilization* (New York: Cambridge University Press, 2004). For several of the defects of Hobson's account see Ricardo Duchesne, *The Uniqueness of Western Civilization*.

⁵¹ C. I. Beckwith, *Warriors of the Cloisters. The Central Asian Origins of Science in the Medieval World* (Princeton: Princeton University Press, 2012). My review of Beckwith: *The American Historical Review* 2013 118: 919-920.

University Reform in the 18th and 19th Centuries

Before concluding, it should be pointed out that the universities did not remain unchanged after the 17th century. After being the midwives to the scientific revolution itself, the universities in the 18th century witnessed the founding of new, more experimental, research oriented institutions, especially in Göttingen, Germany. The University in Göttingen (founded in 1737) took a more hands-on approach to medicine, for example, and went on to invent the research seminar that served as a model for other progressive universities all across Europe. This shift toward expecting both faculty *and* students to engage in original research in seminars was a new thing that was quickly adopted in major universities across Germany and in other parts of Europe. It resulted, especially in the 19th century, in the linking of cutting-edge research with industrial development.⁵²

That research model, albeit with modifications, was transported to the United States after the 1870s, with the result that by end of the 1930s, American researchers, especially physicists working on quantum theory, were held on the same high level as their European peers, soon in fact to surpass them.⁵³

Conclusion: Civilizational Analysis Revisited

Over the last millennium Europe as a civilizational entity solidified around a fusion of Greek philosophy, Christian thought, and Roman law. During the twelfth to the fourteenth centuries Europe experienced an extraordinary social, political and economic revolution that fused those strands of philosophy, religion, and law into a unique civilizational entity, whose further development was guided above all else, by a unique legal system just coming into its own.

The rise of the universities and their scholars were both part of that revolution and architects of it. The legal revolution created the institutional tools for parliamentary democracy, for constitutionalism, and for self-government among citizens and officials in local towns and cities. All of these developments created a far more secure situation for all sorts of economic actors, for merchants, traders, and bankers. The legal devices used by these economic actors did not exist in either Islamic or Chinese law, making it

⁵² William Clark, *Academic Charisma and the Origins of the Research University* (Chicago: University of Chicago Press, 2006); R. Steve Turner, "The Growth of Professional Research in Prussia, 1818 to 1848 -- Causes and Context," *Historical Studies in the Physical Sciences* 3 (1971): 137- 182; and idem, "The Prussian Universities and the Concept of Research," *Internationale Archiv für die Sozialgeschichte der Deutschen Literatur*, 5 (1980): 68- 92.

⁵³ Cf. Stanley Coben, "The Scientific Establishment and the Transmission of Quantum Mechanics to the United States, 1919-1932," *The American Historical Review* 76 #2 (April): 492-66; and Daniel Kevles, *The Physicists. The History of a Scientific Community in Modern America* (Cambridge: Harvard University Press, 1995).

exceedingly difficult to see how the "East" could have supplied any aspect of the foundations for Western civilization (in law or scientific inquiry).

Likewise, the legal scholars (mostly affiliated with universities) were the architects of what we rightly call due process of law. That in itself is a major accomplishment for human kind, but one that must be constantly revisited. In addition, there is now a very substantial body of legal studies showing that our Western conception of human rights was first articulated in this same period extending from the 12th to 14th centuries.⁵⁴ The task of articulating, protecting and extending human rights is never finished, but it is a sure bet that the *Universal Declaration of Human Rights* issued by the United Nations signatories in 1948 would not have appeared without this deep historical background.

Lastly, let us not forget that there were multiple institutional locations in the West, early on, for the development of a *public sphere*, a zone of intellectual, religious, scientific and political discussion that is freely open to the public, and in which participants of all stripes are deemed capable and legitimate contributors to the public discourse.⁵⁵ Because this zone of public discourse has not been fully and adequately contextualized, it has not been properly appreciated as another major Western contribution to modern social, political, and economic development.

No matter how we draw the shifting boundaries that constitute the core territories of Western civilization, Europe as a distinct entity has survived nationalist wars, revolutions, a reformation followed by religious wars, fascist takeovers and economic collapses, yet it has emerged as an increasingly integrated configuration, distinct from all other civilizational entities. Those who have been primarily concerned with statist rivalries and politics have overlooked this internal coherence.

There has indeed been rivalry and competition between the states of Europe, and Europe overseas: i.e., the United States, Canada, Australia and New Zealand. In this regard, the United States has served for the last century or so as the spearhead of *Western development* in every respect. And while many Americans think of the United States as the "exception" to many aspects of European culture and politics, its great success has indeed been made possible because of its thorough adoption of the Western legal, scientific, and religious heritage. That amalgam is always evolving but it remains the touchstone of all the major trends of the world, including the current phase of apparently rapid globalization, and the Web-based Information Technology revolution.

⁵⁴ Brian Tierney, *The Idea of Human Rights* (Atlanta: Scholars Press for Emory University, 1997); Kenneth Pennington, "The History of Rights in Western Thought," *Emory Law Journal Review* 47 (1997): 237-252.

⁵⁵ For an overview of the importance of this social space for Western development, Huff, "Science and the Public Sphere: Comparative Institutional Development in Islam and the West," *Social Epistemology* 11 #1 (1997): 25-37; and *Intellectual Curiosity*, pp. 305-07.

Before one takes too seriously the alarms appearing under the heading of the "decline of the West," one should notice that in that broader category of "the West" there resides not only the European Union, but the United States, other parts of North America and the Antipodes. To take but one example of the shared achievements of that broader entity, the development of modern science: the number of Nobel Prize winners of that entity since the inception of the Prize proves to be far more than 90 percent. Put differently, "whether measured in people or events, 97 percent of the accomplishment in the scientific" sphere occurred in Europe or North America.⁵⁶ A similar achievement occurred in the arts.

Civilizational analysis could profitably focus on how and why the other major civilizations of the world --Islam, China, India, and Russia, for example, and their indigenous traditions of Islam, Confucianism, Buddhism, and Hinduism -- did not give rise to modern science, but also why they did not give rise to modern constitutionalism, parliamentary democracy, due process of law, the concept of human rights and the public sphere supporting freedom of expression.

The West has indeed been uniquely productive in the creation of institutional arrangements that forwarded scientific inquiry but also preserved some of our most cherished values: democratic constitutionalism and the advance of due process of law, vital anchors for long-term economic progress. This does not mean that Western actors never fell from acceptable standards of conduct, but that over time they did establish universal values, cherished by all, that even today, are sought by many across the world.

Indeed, it remains a major agenda of civilizational analysis to trace out the early origins of "world culture," the emergence of an autonomous body of international law beyond Europe, the transformations of many local and regional legal systems so that they could encompass democratic constitutionalism, human rights and due process of law. By that latter conception one should mean "rule of law," not "rule of men." Likewise the whole history of the dissemination of the legal concept of legal autonomy in non-Western legal contexts remains a huge gap in historical studies, not to mention political science and sociology.

⁵⁶ Charles Murray, *Human Accomplishment: The Pursuit of Excellence in the Arts and Sciences 800 B.C. to 1950* (New York: HarperCollins, 2003), p. 252.