

A synopsis and review by Daniel Osmer for [Associative Economics Café](#) of the new book by Jane Gleeson-White – ‘Double Entry’. ***March 8, 2012***

Double Take

It is difficult not to do a double take when reading that an invention is so significant that it can ‘make or break’ the planet! But that is just what Aussie Jane Gleeson-White claims in her new book, “*Double Entry*” published by Allen & Unwin this past autumn. Not only that, she calls it history’s best-kept secret and most important untold story that has at its heart a Renaissance monk, mathematician and magician – Luca Pacioli. The invention she is talking about, double entry accounting, began in its simplest form with the first settlements around Jericho when agriculture, salt mining and an economic surplus arose. The long evolution of bookkeeping (accounting) went through a major metamorphosis during the Middle Ages when some of the northern Italian city-states practiced a rudimentary form of the new Double Entry. This technique was first codified and published by the mathematician monk, Luca Pacioli (1494), who was also friend and collaborator of Leonardo da Vinci, Piero della Francesca and Albrecht Durer.

In the preface, the author refers to her economist hero John M. Keynes and his theory of the system of national accounting developed in the 20th century as one of the reasons for writing the book. The research revealed that his system was influenced by Pacioli’s Venetian bookkeeping. It is proposed that double entry bookkeeping made the wealth and rise of the Renaissance possible, enabled capitalism to flourish and evolve into a sophisticated system of numbers that now governs the global economy. Thus, this ancient technique is still in daily use throughout the world today. In ten packed chapters Gleeson-White attempts to make the case that, through this worldwide technique relied on by most nations, the planet is being ruined. She is also convinced that the reverse is true! Is there more to double entry than accuracy, measuring and ordering the world’s resources for consumption and profit?

Through a fascinating and diverse historical cast of characters almost rivaling the cast of thousands in the Ten Commandments film, Gleeson-White weaves an intricate tale from Jericho, Mesopotamia and the Renaissance to the Industrial Revolution, the World Wars to Wall Street and the modern global economy. She reminds us that accounting isn't just about numbers; it is also a form of storytelling that reveals the intentions and economic actions of the entity that is being accounted for.

Ancient Origins; Modern Practice

Over 10,000 years ago writing derived from counting according to the cited research of French archaeologist Denise Schmandt-Besserat. She also discovered that ancient accountants used fired clay tokens shaped as cones, cylinders, ovoids and spheres representing grains, animals and commodities that were placed in clay envelopes imprinted with signature seals to record possessions. Early accountants learned to press the token shapes into the wet clay of the envelopes and eventually flattened them into the first clay tablets.

Pacioli became the leading mathematician of the Renaissance by studying under Francesca and discovering a copy of Fibonacci's Liber Abaci. He popularized, in the vernacular, the new Hindu-Arabic numbers and algebra to a wide audience, leaving behind the Abbaco method of algebra. The newly available Guttenberg press made all the difference! His Summa of 1494 not only contained the 27 pages of Double Entry but also laid the foundation for the use of mathematics for solving abstract arguments and prepared the way for modern science. As a teacher, Pacioli was known as an innovative and effective educator who introduced many students to double entry bookkeeping as well as the new mathematics of the day. Over two centuries later accounting enthusiast John Mair in 1765 commented on the value of accounting: "The theory of this art or science is beautiful and curious, very fit for improving the minds of youth, exercising their wit and invention, and disposing them to a close and accurate way of thinking."



The photo from the front cover (Venice)

As Venice moved to the background, the center of commerce and accounting moved to the Netherlands, which acted as a training ground for future accountants as commerce traveled further west from Britain and eventually to America. Richard Dafforne's 'The Merchant's Mirror' published in London in 1636 was written as a series of questions, answers and 'rules of thumb' that included: "Whatsoever cometh unto us for Proper, Forage, or Company account, is ... Debitor. Whatsoever goeth from us ... is Creditor." Even the German writer, poet and scientist Johann W. von Goethe in 'Wilhelm Meister's Apprenticeship' published in 1796 through the character of Werner, makes reference to Double Entry Bookkeeping: "By means of this he can at any time survey the general whole, without needing to perplex himself in the details. What advantages does he derive from the system of bookkeeping by double entry? It is among the finest inventions of the human mind; every prudent master of a house should introduce it into his economy."

Chapter six documents the effect of double entry on the Industrial Revolution. Fast-forward to the large factories and the rise of the joint stock companies established in England toward the end of the 18th century. In 1772 Josiah Wedgwood's industrial pottery factory was so successful it was difficult to meet demand and serious cash flow issues arose, prompting the adoption of double entry bookkeeping. From this process he discovered the importance of

distinguishing between fixed and variable expenses, as the company created a significant surplus allowing him to invest in the voyage of his grandson Charles Darwin on the Beagle. By 1900 America became the largest economy in the world from the fortunes created by du Pont, Morgan, Carnegie and Rockefeller. This was in part due to their reliance on double entry. Rockefeller began as a bookkeeper and attributed his wealth and success to his mastery of double entry bookkeeping.

In chapter seven, Double Entry and Capitalism, German economist Werner Sombart is cited as describing the emergence of capitalism and the appearance of double-entry bookkeeping in the thirteenth century as causally related. From his 1902 six-volume work on capitalism: “It is simply impossible to imagine capitalism without double entry bookkeeping; they are like form and content.” The usefulness of capital is confused with capitalism, which is the appropriation of capital by a few to the exclusion of others. The advent of the corporation also influenced and was influenced by double entry, as the role of the auditor turned bookkeeping into a full-fledged accounting profession. Gleeson-White cites the origins of auditing from detailed research and her keen sense of a ‘good story’. Fourteenth century Chamberlains in London had to be audited (from the Latin ‘to hear’) or heard, because very few people could read or write. Written records only came into use later, in the seventeenth century.

Double Edged Sword

Gleeson-White identifies and emphasizes Keynes ‘theory of effective demand’ from his 1936 publication “The General Theory of Employment, Interest and Money” as providing the theoretical basis for a new ‘System of National Accounts’ (SNA) based on Double Entry Accounting. With the help of Stone and Kuznets it became the foundation of international accounting that introduced the Gross National Product (GNP) as the key economic indicator for a nation’s economy (now GDP). Keynes ‘demand management’, the international clearing house idea and hoarding avoidance was, according to his biographer Robert Skidelsky, at the “heart of the matter” for preventing unemployment. The idea was to close the

'output gap' created by decreasing employment, by increasing demand (spending) in the right amount. How all this was ultimately implemented under the influence of Washington, DC made the architects of these innovations question the validity of their own work. According to the author, the increased reliance on mathematical equations and statistics turned their innovations into a beast rather than the blessing it could have been.

A Financial Ecology

In summary, her premise: capitalism, corporations and nations depend on double entry accounting in order to guide economic activity, yet the all important GNP and GDP are flawed numbers that now govern the modern world. Our transactions with the earth and the well being of people are not taken into account. Is it accounting that has not learned to account for the value of everyone on the planet as well as earth's resources like the rivers, oceans and air, or is it the lack of a true understanding by double entry accounting practitioners?

An important unexamined detail is the fact that nations do not consider the balance sheet like corporations do. They only focus on the flow, the income and expense, and not on the stock of resources and agreements needed. Overseeing the cash moving between the two types of accounts, I & E and B/S, then becomes all the more useful for guiding economic actions and making more perceptive decisions. Can universal accounting practice and the sharing of results replace econometrics as the guiding light for modern economics? If the national accounts are based on double entry and includes the tracking of resources, an 'aggregated' balance sheet would be useful for managing and valuing common resources.

The new perspective art and mathematics of the Renaissance were accompanied by the newly acquired perspective and perception of double entry accounting (bookkeeping). This remarkably simple yet profound technique and practice is a two-way street. Past financial statements and future forecasting statements together enable penetrating and precise insight and foresight – the story behind the numbers.

Perhaps another book is in the offing? In the further adventures and secrets of double entry accounting the deeper nature of this universal

language may still be revealed. Accounting does not really need to treat land (the planet), labor (people), capital (profit) and money (token) as commodities, they can be considered tools and boundaries of the economy. What would double entry accounting look like with this new financial ecology? Rather than looking to create a new kind of green or eco-accountant, all that may be needed is to make the universal language more universally known. Rather than just focusing on the accounts of nations and corporations, the next fruitful step could be accounting literacy for all, especially young people who are just beginning to make their way into the economy. The story accounting can tell has to do with guidance and economic perception toward the future, whether for a whole nation, a company or an individual. How else can we accurately see each other's needs without transparently sharing our accounts? Thanks to Jane Gleeson-White's fascinating and engaging book the conversation has begun.

Jane Gleeson-White has a Bachelor's degree in economics and accounting and is a writer living in Sydney, Australia. She was also an intern at the Peggy Guggenheim Museum in Venice.

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