

Cybernetic Reasoning and the Ethics of Living and Work

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Vanity of vanities, saith the Speaker; vanity of vanities, all is vanity.

There is nothing better for a man than that he should eat and drink, and make his soul enjoy good in his labour. This also I saw, that it is from the hand of God.

Ecclesiastes 1:2, 2:24

We are living in period of history where almost every one of our institutions – the church, the universities, government and businesses – have been hit by a wave of corruption and bizarre behaviour that has left us bewildered. I do not need to provide details, for these are spread all over the daily press. Yet interestingly, the writer of Ecclesiastes dismissed similar turmoil as vanity of vanities and assured us that there was nothing new under the sun¹. He encouraged us to get on with life and to derive our enjoyment primarily from our work (and not from eating and drinking as many assume²). His advice may seem somewhat escapist to some, that is, he seems to suggest that we ought to mind our own business and let others mind theirs. But this only appears so because our way of thinking is different to the biblical authors. Biblical reasoning was focused on life; it considered living well as being of the utmost most importance. It instructed people to respond to historical events with their work in order to preserve the life of the community. Life was therefore linked to ethics. Ethics was realised through the work of service to the community. It was a work ethic.

Conversely, modern reasoning is focused on existence rather than life and weaves two incompatible strands of thought together. The first is objective, known as rationalism or physico-mathematical reasoning³ and is inherited mostly from Aristotle. He taught us to regard a mechanical cause-and-effect logic as supreme; it is at the heart of most modern technological design and its application. Von Bertalanffy blamed much of today's predicament on this type of thinking:

The mechanistic world view, taking the play of physical particles as ultimate reality, found its expression in a civilisation which glorifies physical technology that has led eventually to the catastrophes of our time.⁴

The second strand is subjective. It was introduced three centuries ago by Kant who dismissed any objective connection between reality and reason; reality was for him a projection of our

¹ Ecclesiastes 1:9; all scripture citations are taken from the Revised Version.

² Any association of the motto “eat, drink and be merry for tomorrow we die” with Ecclesiastes is a gross misinterpretation.

³ Ortega y Gasset, 1961

⁴ Von Bertalanffy, 1971, p. 48

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thoughts. Many variations of this theme were formulated during the 19th century – from Fichte to Nietzsche – eventually leading to the disastrous unravelling of Germany in the first half of the 20th century. These two forms of reasoning – rationalist on one hand, subjective on the other – are incompatible, which may explain why mixing them has led to the irrationalism and social fragmentation of modern man. On the one hand physico-mathematical reason has dominated the material side of our lives embracing technology, production of goods, transport and communication. It has fed the spirit of greed that dominates us and leads us to an addictive consumerism⁵. On the other hand our society and its culture are marked by individualism and relativism resulting from a subjective way of reasoning and expressed in an endless string of empty talk by politicians, corporate leaders and even academics and theologians. Ecclesiastes could well be translated as “hot air of hot air, all is hot air”⁶.

The Design of the Brain

Modern reasoning runs counter to the operation of our brain. We have known about this since Ashby, more than sixty years ago, published his seminal works *Design for a Brain* and *Introduction to Cybernetics*⁷. He explained that the brain, through a feedback process, kept man and animal alive.⁸ And since life, rather than mere existence, should be our primary concern, we should benefit by having a closer look at Ashby's design, for it applies not only to biological life but also to socio-cultural life. By socio-cultural life I mean that part of our life that is uniquely human and distinct from biological and psychological life⁹. Both forms of life have in common their dependence on a set of essential variables to remain alive. For example, it is essential for biological-psychological life that the pulse, temperature and blood pressure remain within a normal range¹⁰. According to Ashby:

Every species has a *number of variables which are closely related to survival* and which are closely linked dynamically so that marked changes in any one leads sooner or later to marked changes in the others. Thus, if we find in a rat that the pulse rate has dropped to zero, we can predict that the respiration rate will soon become zero, that the body temperature will soon fall to room temperature, and that the number of bacteria in the tissues soon rise from almost zero to a very high number. These important and closely linked variables will be referred to as the *essential variables* of the animal.¹¹

Likewise, there is a set of essential variables that must be within a normal state for man to be socio-culturally alive as it is possible for a person to be biologically and psychologically alive but socio-culturally dead. These socio-cultural variables are of a historical character and to understand them man must reason historically¹². To do this – and in contrast to rationalism

⁵ Hamilton, 2005; de Graaf et al., 2002

⁶ The Hebrew word translated into English as “vanity” is *hebel*, which according to Harris et al., 1980, also means vapour or breath. Given the somewhat abject tone of the opening passage of Ecclesiastes, “hot air of hot air” might also express the thought of its author.

⁷ Ashby, 1960 and 1957 respectively.

⁸ He also demonstrated how this process could be mechanically reproduced. However, this should not detract us, for it does not mean that by organising our reasoning after the design of the brain it will necessarily mean that our reasoning will become mechanical. The laptop I use for writing papers and books is an electronic machine; to use it most effectively requires that I organise my research and writing in a manner that fits its hardware and software organisation. But it does not mean that the reasoning that comes out of this is also mechanical.

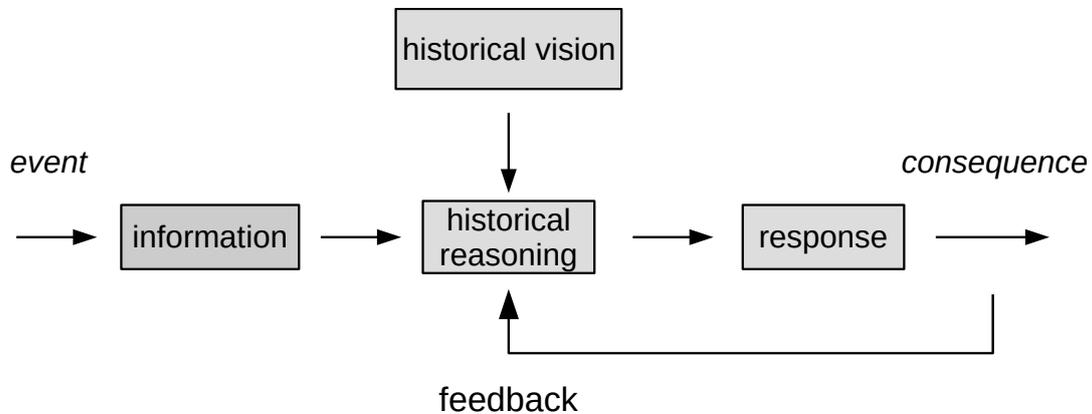
⁹ We must however emphasise that these two forms of life are closely interconnected. Socio-cultural life depends on the health of biological-psychological life and vice-versa.

¹⁰ In biology such a state is called *homeostatic*.

¹¹ Ashby, 1960, p. 42; emphasis added

¹² Ortega y Gasset, 1961

and subjectivism – historical reasoning follows the same feedback process¹³ of the brain. This is graphically depicted below¹⁴. I need to stress however that this figure does not represent an explanation of *how we think*, but a way proposing *how we ought to think* in order to live a socio-cultural life. With this in mind we will examine this feedback process in detail.



Socio-cultural Feedback Process

The diagrammatic representation of feedback in this figure is common in cybernetics and systems literature, but it is mostly directed towards biological and systems engineering applications. Here however, we have placed within the feedback process activities that are focused on socio-cultural life; it begins with the observation of an event which is then transformed into information. This information is analysed by engaging in historical reasoning in the light of an historical vision. The result of this analysis leads to a response and a consequence. This outcome is then fed back for further reasoning and learning from this experience. We should note something of importance here. The brain's feedback process is aimed at *restoring* the body to a state – predefined by the DNA – which is considered as normal after it has been disturbed by some event. The socio-cultural feedback process aims are the same; they are aimed at *restoring* our humanity. For this is our problem, we have lost our humanity and with it our dignity. We will return to this later, now we will examine each component in the diagram above.

Dynamics, Time and Epoch

The feedback process is a dynamic, that is, all events, reasonings, responses and their consequences take place in time. There is a time for everything¹⁵. There are two types of times in historical reasoning. The first type is the ordinary chronological time shown by a wristwatch. The second is a historic epoch, a period with its own identity that distinguishes it from others. In order to be specific, from now on I will refer to the first type as *time* and to the second simply as *epoch*. Epochs are usually marked by some event that has far greater impact than what might be immediately observed. For example, the storming of the Bastille was not just an act to obtain the gunpowder stored in it and liberate its prisoners, but marked

¹³ For a detailed expounding of this process refer to J. D. R. de Raadt, 2015

¹⁴ For a detailed description of this process refer to J. D. R. de Raadt, 2015

¹⁵ Ecclesiastes 3:1

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the beginning of the French Revolution and the modern epoch. The Old Testament prophets were masters at spotting such events and tried unsuccessfully to persuade their political leaders to take them seriously. According to De Tocqueville, the same happened prior to the French Revolution:

Philosophers and statesmen may learn a valuable lesson of modesty from the history of our Revolution, for there never were events greater, better prepared, longer matured, and yet so little foreseen.¹⁶

Unfortunately not much has been learnt either by philosophers or statesmen. Thus, European political leaders failed to attribute due importance to the early Nazi activities in Germany. They simply dismissed their leaders as crackpots disturbing the peace and resolved matters by putting them in jail. They ignored the philosophical mood – stretching from Kant to Nietzsche – that had gradually permeated German culture. This mood promoted racial supremacy, glorification of military and industrial power and an ethic based on the imposition of the human will by might.

A more contemporary illustration is the emergence of China as a world power. Western leaders have turned a blind eye to the totalitarian foundation of its present regime. While Mao Tse-tung violently oppressed his people in pursuit of domination, his heir, Xi Jinping¹⁷, no longer needs weapons to pursue world domination. To help him attain his totalitarian goal, he has been unwittingly supplied with more subtle armaments by the West in the form of technological, educational and economic skills. China has purchased these by supplying cheap goods produced by its slave work force to satisfy the insatiable consumer appetite of rich countries. With the enormous wealth it has accumulated as a result of its uneven trade, China is now exerting its political muscle upon the West. Yet, despite the many warnings¹⁸, Western leaders have begun to respond too late to this challenge¹⁹. China is now too powerful to be stopped.

Event and Information

In contrast to rationalism and subjectivism, historical reasoning takes events as real. However, all observation of events is carried out by humans and since no single human being can observe all events, we must rely on the record of such events, that is, on information. Since information is not the same as observation – it is only a claim to observation – it is not always reliable. But in the absence of a more dependable source, we humans must unavoidably rely upon information to act. We must, nevertheless evaluate the quality of such information, for information may prove to be disinformation. For example, in the natural sciences often what is claimed to be information is not based on observation but on theory, that is, on speculation²⁰. When a palaeontologist says that a certain bone belongs to a creature living one million years ago, his statement should not be accepted as information. For one million years ago, no person observed the owner of the bone alive and recorded the

¹⁶ de Tocqueville, 1856, Book First, 1

¹⁷ Considered by some as the most powerful man on earth, *The Economist*, 2017.

¹⁸ Such warnings have been directed to Australia and also South American countries such as Brazil and Chile. See Hoffman, 2018, Jennings, 2018, Hawksley, 2006, Muggah and Abdenur, 2017 and *El Mercurio*, 2018.

¹⁹ Jennings, 2017. Australia's Prime Minister Malcolm Turnbull of Australia – one of the countries most vulnerable to Chinese dominance – recently announced legislation directed at China to stop foreign interference in internal affairs. President Trump trade sanctions on China has brought fears of a trade war that may severely impact economies all over the world.

²⁰ From the Greek *θεωρία*, Liddell et al., 2009

event. Thus, the statement is purely based on theory. In this sense, natural scientists often are less strict in their definition of information than humanists.

Another reason for producing disinformation is wilful intention to deceive. By circulating false or distorted information one can manipulate people to act in a manner desired by the manipulator. All that passes today under the banner of media, public relations and marketing and such are in truth sophisticated instruments to generate disinformation and make people behave in a manner suitable to the aims of politicians, business corporations and public servants. Subjectivism facilitates this deception, for one can always plead innocence by claiming that the information one presumed to be valid was based on one's own perception of reality which might differ to others'. Deception in politics, commerce and even the professions are widespread. One might say that the hyper-modern²¹ epoch is marked by institutionalised deceit, facilitated by the average citizen's naivety and a poor educational system²².

It is paramount, therefore, that information be validated and there are specific methods to do this. In a court, jurors rely on cross-examination to evaluate the information from witnesses. Empirical science evaluates information by replicating the events that generated it. The historian also has a method to evaluate historical information – it is called historiography. Systems science and cybernetics validate information on the basis of the totality, that is, whether it conduces to normal – either biological or socio-cultural – life or not. Although all these methods are fallible – and given that there is no infallible alternative – they have proven sufficiently reliable for us to trust them. To reject them we would make life impossible.

Historic Reasoning and Vision

Once the information has been validated, one must decide how to respond to it. Given the shortsightedness of philosophers and statesmen alluded by De Tocqueville, we should take particular care to examine events under the light of the epoch within which they happen to establish whether they are of greater significance than their immediate effect suggests. This is the core of historical reasoning. However, in addition to the epoch, historical reasoning requires one more ingredient for its deliberation. This ingredient is historical vision.

Let us imagine a navigator in the open sea, that is with no land in view, who wishes to locate his ship by obtaining its geographical latitude and longitude. To do this, the navigator will require a chart representing the totality of the globe, for the latitude and longitude refer to a position relative to the globe and not to the locality as it is used in coastal navigation. Like the globe, historical vision presents the totality of history and the latitude and longitude would correspond to the socio-cultural significance of an event within this historical totality. Conversely, the immediate impact of an event is only equivalent to the local coastal position of the ship. And here we come across a perpetual problem of leadership as most leaders are coastal navigators and not navigators of open seas.

Ortega y Gasset called such a vision an “invariable historical nucleus”, because like the globe, historical vision remains constant²³ in order to mark the path that the human drama follows in its way to a final climax. Its function is analogous to the biological DNA. For example, in the Bible, historical vision is comprised by the creation of the world, the fall of

²¹ The term *hyper-modern* is more appropriate than *post-modern* because this epoch is a consequence and an integral part of modernity. Refer to Lipovetsky & Sébastien, 2006.

²² J. D. R. de Raadt, 2016; J. D. R. de Raadt & Veronica D. de Raadt, 2017

²³ Ortega y Gasset, 1924, Hegel

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man, the misery and oppression that follows as the result of man exploiting man, the redemption by the Messiah and as the final outcome, the eventual *restoration* of all things to their originally created state. Alternative historical visions are Napoleon's grand modern vision for a unified Europe, Hitler's Nazi ideology, Marx's historical dialectics and the neo-liberal trust in human progress through constant economic growth.

These alternative visions – modernism, Nazism, Marxism and neo-liberalism – have brought upon humanity catastrophic consequences. The biblical vision on the other hand, has historically proved to be able to sustain a people rather than destroy them. Israel began as a community slaves in Egypt; they escaped from their oppressors, crossed the desert and established a nation in Canaan. Centuries later, after being successively wiped out and exiled by the Assyrian and Babylonian armies, they once more returned to their land and, towards the end of the 6th century BC., they began to rebuild their city and temple. Jerusalem was again razed to the ground in 70 AD by the Roman army. This time, the exile lasted a far longer time – almost 2000 years – and during it Israel's people were persecuted, vilified and eventually six million of them murdered by the Nazis. Yet in 1948, almost two millenniums later, the state of Israel was once more established in the ancient land of Canaan. No people in history have been able to overcome the obstacles that have been put before this nation. Only Israel has accomplished it. There is no other historical vision that comes even near to this. That is why the Bible occupies such an exalted place in the Western world as Israel's declaration of independence itself affirms it:

The Land of Israel was the birthplace of the Jewish people. Here their spiritual, religious and political identity was shaped. Here they first attained to statehood, created cultural values of national and universal significance and gave to the world the eternal Book of Books.²⁴

We may note two notable characteristics of the biblical vision. First, it was a vision based on the empirical past, that is, on concrete historical events. Second, its emphasis is on the restoration of humanity to its original state. By contrast, the other visions we have mentioned are focused on an optimistic speculation about the future. They trust in the unwarranted continuous progress of humanity. This might explain the success of the biblical vision in contrast with the catastrophes to which the other visions have led us.

Response, Consequence and Socio-Cultural Life

Since events are seldom beneficial to humanity but, on the contrary, threaten its socio-cultural life, a response must be aimed at restoring such life. Historical reasoning then, guided by the right vision, can deliver a response to restore socio-cultural life. This requires that the essential variables – representing different aspects such as ethical, social, economic, juridical and aesthetic – are returned to a state that accommodates cultural life. But a cultural life must also be civic, that is, it must be socially oriented. To retain his full humanity, every person must belong to a family and a community; these are as much part of him as his ears and eyes. Therefore, every person is an essential variable to his social group, just as the pulse rate and temperature are essential variables to the body. How a person responds to events and the consequence of his response will not only affect his life but also the life of his family and community. If his response fails to produce the desired outcome, this will not only affect him but his whole social group. There is no place for individualism in socio-cultural life.

We have now reached the heart of a special type of ethics, which demands that each person should respond to events taking into account not only the effect of the outcomes upon himself, but also upon the whole social group to which he belongs. Should a person fail to do

²⁴ Official Gazette, 1948

this, he will bring his group as well as himself into socio-cultural death. I have termed this “Samaritan ethics”²⁵, for it requires that a person voluntarily put the interests of his neighbour above the interests of self. In practice this means that a person should devote his life to the service of others. I must stress that Samaritan ethics has nothing to do with the self-imposed asceticism or sacrifice practised by monks, nor is it mere charity. It is a work ethic and the foundation of an historical life. A true professional must integrate his work with historical life, for he must ceaselessly intervene to secure his and his community's socio-cultural life, even if it demands self-denial²⁶. He needs to carry his cross which stands not for his problems but his neighbour's problems.

It should be borne in mind that the socio-cultural variables that we have mentioned depend entirely on this professional Samaritan ethic. It is not simply an option for people who, by their temperament, choose to live with self-abnegation. This ethic is the mark that distinguishes every professional who has a civic conscience. It is also the sign of the free man. The free man lives to work. On the other hand, the slave works to live and remains chained even when he lives with affluence. Neo-liberalism and its love of money are the chains of modern man. True, neo-liberalism has generated the material well-being of many, but the price has been their humanity. It is too high a price. Yet even the universities have paid it to get rich. Some universities that regard themselves as Christian have subordinated their scientific and pedagogical mission to neo-liberalism, now dedicating themselves to the fabrication of “intellectual capital”²⁷ And moved by greed they have expended the freedom of their students by subjugating them to trade and the neo-liberal bureaucracy. Truth liberates²⁸; intellectual capital enslaves.

Feedback

Finally, we come to that element that gives the brain and historical reasoning one of its most distinctive qualities. Feedback is what allows both of these to learn; it is a feature that is ignored by both objectivism and subjectivism. Historical reasoning registers each cycle of event and response and their association with each epoch and thus accumulates wisdom by passing it on from one generation to another. This is the way that the humanities – the sciences that restore our humanity by teaching us how to live – are developed. According to Vives,

...the very arts would be unable to exist if history were to be suppressed... All of jurisprudence springs from history... history advances all the disciplines, she by her own engenders so many arts, nurtures, enhances and perfects them, not by means of precepts and bitter and bothersome exercises, but by the delectation of the heart in such a manner that you learn very beautiful and useful things while at the same time you restore and reinvigorate your spirit.²⁹

Modern man sadly thinks differently. With one blow he has struck down history as “bunk”³⁰ and demolished the wisdom accumulated through centuries of harrowing learning.

²⁵ See J. D. R. de Raadt, 2006. Here I have specifically explained the difference between ethics and justice and argued that what people call ethics today represents justice, not ethics.

²⁶ Matthew 10:38; 16:24; John 12:25-26

²⁷ Many universities now define their contribution as “intellectual capital”. For example, the Pontificia Universidad Católica de Chile, the incubator of neo-liberalism in Chile, seeks on the one hand “academic excellence and values inspired by Christian doctrine” and on the other hand pursues “the mission of serving Chile in creation of intellectual capital.” My translation, see <<https://www.thisischile.cl/pontificia-universidad-catolica-de-chile/>> (Accessed 21 August 2018).

²⁸ John 8:32

²⁹ Vives, n.d., I, 10-11, emphasis added

³⁰ Henry Ford, 1916.

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And in the process, he has bonded himself to the assembly line of rationalism and the fiction of subjectivism.

Therefore, my challenge to my Brazilian colleagues is that we should release our students from the bondage that regards them as mere “human capital” or a “resource”. The historical truth, evidenced by events and outcomes will make them free³¹, therefore let us teach them to use their brain, to be visionaries, to reason historically and, above all, to reason ethically. We should also teach them to live simply and rejoice in the goodness of their work. For all this comes from the hand of God.

References

- Ashby, W. Ross (1957) *An Introduction to Cybernetics*. London, Chapman & Hall.
<<http://dspace.utalca.cl/bitstream/1950/6344/2/IntroCyb.pdf>> (Accessed 05 July 2018).
- Ashby, W. Ross (1960) *Design for a Brain* (2nd. Ed). London, Chapman & Hall.
<<https://ia802605.us.archive.org/34/items/designforbrainor00ashb/designforbrainor00ashb.pdf>> (Accessed 05 July 2018).
- de Graaf, John; Wann, David and Naylor, Thomas H. (2002) *Affluenza: The All-Consuming Epidemic*. San Francisco, Berrett-Koehler.
- de Raadt, J. D. R. (2000) *Redesign and Management of Communities in Crisis*. Parkland, Universal Publishers. <<http://www.melbournccd.com/download-books.html>> (Accessed 26 February 2015).
- de Raadt, J. D. R. (2006) Samaritan Ethics, Systems Science and Society. *Systemic Practice and Action Research*, 19: 489-500. <<http://www.melbournccd.com/articles.html>> (Accessed 21 December 2017).
- de Raadt, J. D. R. (2015) *Information and Managerial Wisdom*. Second Edition. Melbourne Centre for Community Development. <<http://www.melbournccd.org/books/imw.pdf>> (Accessed 24 April 2016).
- de Raadt, J. D. R. (2016) ¿Quo vadis? Where are the University and Science Going? *Systems Research and Behavioral Science*, 33:289-302.
<<http://www.melbournccd.org/articles.html>> (Accessed 07 September 2017).
- de Raadt, J. D. R. and de Raadt, Veronica D. (2014) *From Multi-Modal Systems Thinking to Community Development*. Melbourne, Melbourne Centre for Community Development. <<http://www.melbournccd.com/books.html>> (Accessed 26 February 2018).
- de Raadt, J. D. R. and de Raadt, Veronica D. (2017) *The Rise of Bureaucracy and the Decline of Work – their Roots in the 2nd and 3rd Century Church*. Melbourne Centre for Community Development. <<http://www.melbournccd.com/books.html>> (Accessed 26 October 2018).
- de Tocqueville, Alexis (1856) *The Old Regime and the Revolution*. Translated by John Bonner. New York, Harper & Brothers <<http://oll.libertyfund.org/titles/2419>> (Accessed 07 July 2018).
- El Mercurio (2018) El positivo "doble efecto" para Chile por desarrollo de autos eléctricos en China. 29 Enero. <<http://www.emol.com/noticias/Economia/2018/01/29/893026/Chile-espera-aumentar-exportacion-de-cobre-y-litio-a-China-para-sus-vehiculos-electricos.html>> (Accessed 15 July 2018).
- Ford, Henry (1916) Interview in *Chicago Tribune*, May 25th.

³¹ John 8:32

- Hamilton, Clive (2005) *Affluenza: The new illness in Australia?* On Line Opinion: Australia's e-journal journal fo social and political Debate. <<http://www.onlineopinion.com.au/view.asp?article=3715>> (Accessed 23 August 2018).
- Harris, Laird R.; Archer, Gleason L. and Waltke, Bruce K. (1980) *Theological Wordbook of the Old Testament*. 2 Volumes. <http://www.theword.net/index.php?downloads.modules&group_id=5&o=title&l=english> (Accessed 04 March 2013).
- Hawksley, Humphrey (2006) Chinese influence in Brazil worries US. *BBC News*, 3 March. <<http://news.bbc.co.uk/2/hi/americas/4872522.stm>> (Accessed 23 July 2018).
- Hoffman, Samantha (2018) Social Credit: Technology-enhanced authoritarian control with global consequences. Australian Strategic Policy Institute. <<https://www.aspi.org.au/report/social-credit>> (Accessed 15 July 2018).
- Jennings, Peter (2017) At last, we're awake to China's predatory meddling. Australian Strategic Policy Institute. <<https://www.aspi.org.au/opinion/last-were-awake-chinas-predatory-meddling>> (Accessed 15 July 2018).
- Jennings, Peter (2018) Government must protect critical infrastructure from external control. Australian Strategic Policy Institute. <<https://www.aspi.org.au/opinion/government-must-protect-critical-infrastructure-external-control>> (Accessed 15 July 2018).
- Kant, Immanuel (2003) *Crítica de la Razón Pura*. Biblioteca Virtual Universal. <<http://www.biblioteca.org.ar/libros/89799.pdf>> (Accessed 28 July 2018).
- Liddell, Henry George; Scott Robert; Jones, Henry Stuart (2009) *Lexicon of Classical Greek*. <http://www.theword.net/index.php?downloads.modules&group_id=5&o=title&l=english> (Accessed 04 March 2013).
- Lipovetsky, Gilles & Sébastien, Charles (2006) *Los Tiempos Hipermodernos*. Traducido por Antonio-Prometeo Moya. Barcelona, Anagrama.
- Muggah, Robert and Abdenur, Adriana Erthal (2017) China's Strategic Play in Brazil. *Americas Quarterly*. 27 September. <<http://www.americasquarterly.org/content/chinas-strategic-play-brazil>> (Accessed 15 July 2018).
- Official Gazette (1948) The Declaration of the Establishment of the State of Israel. No1, Tel Aviv. <https://www.knesset.gov.il/docs/eng/megilat_eng.htm> (Accessed 08 February 2018).
- Ortega y Gasset, José (1924) *Kant - Hegel - Scheler*. <<http://www.librodot.com>> (Accessed 30 May 2008).
- Ortega y Gasset, José (1961) *History as a System and other Essays Toward a Philosophy of History*. New York, Norton. <http://www.laeditorialvirtual.com.ar/Pages/Ortega_y_Gasset/Ortega_HistoriaComoSistema.htm> (Accessed 14 January 2012).
- The Economist (2017) Xi Jinping has more clout than Donald Trump. The world should be wary. 14 October. <<https://www.economist.com/leaders/2017/10/14/xi-jinping-has-more-clout-than-donald-trump.-the-world-should-be-wary>> (Accessed 24 August 2018).
- Vives, Juan Luis (1971) *Vives: on Education*. Totowa, New Jersey, Rowman and Littlefield.
- von Bertalanffy, Ludwig (1971) *General Systems Theory*. London, Penguin.