

Scientific journals in Latin America and the Open Access (OA)

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THE WHY OF THE OPEN ACCESS MOVEMENT (OA)

The Open Access movement (OA), is a movement that occurred just over 10 years ago with the signing of the first declaration in Budapest, followed in 2003 by those in Bethesda and Berlin. The emergence of this movement in Europe and North America is mainly due to the increase in the cost of research journals, which suffered the brunt of “journal aggregator” companies that began to obtain ownership of multiple journals and hence acquire control and decision over their prices. This led academics, researchers and university libraries from the first world to have problems in acquiring them, since the cost of subscriptions multiplied exponentially.

This dramatic change was the main trigger of OA. Paradoxically, academics who protested first about this situation were from North America, as they lost access to journals or were asked to choose between a few titles and to sacrifice the rest. This led to a growing number of scholars who organized around the issue and made their voices heard.

However, the OA had its genesis since before the American discontent and can be found in the work of the pioneer Paul Ginsparg (1995), who created the arXiv system in 1991. He also created another very important open access system in the United States today called Medline, focusing on medicine. Their emergence was due to the National Institutes of Health (NIH), which began publishing in open access research articles and complete research journals in order to break the monopoly of commercial companies that controlled prices. The system Medline resulted in PubMed, which is also of great value and service, providing access to a wealth of scientific information openly and for free.

Figure 1. Origins of Open Access (OA)

THE WHY OF THE OA MOVEMENT	
Genesis	Budapest 2002-Bethesda 2003-Berlin 2003
Detonator	The costs of academic journals
Trigger	Chagrin of academics
Pioneers	arXiv 1991 - Medline 1997

SCIENTIFIC JOURNALS IN LATIN AMERICA

Today, Latin America has a large publishing base, specifically for periodicals. In this respect, one can observe a division into three categories according to their nature: research, professional and technical, and dissemination. There is a total of 18, 800 titles (according to the Directory Latindex, which has the most comprehensive data base in this field); however from this vast literature there are several thousand that are no longer current.

This information about our journals was unknown 20 years ago. It was not even known what was published in each of the countries, and much less about the quality of its contents. Later on I will delve into the control process of publications in Latin America.

The problem of instability of our magazines is reflected in the facts that of the more than 18,000, only 16,000 are actively published. Of these, 1,723 are published in Mexico and 634 in Central America. Of the 634 that are published in Central America in the catalog Latindex, where only appear journals that meet

certain criteria for editorial quality, there are only 151- a very low fraction. This means that the vast majority of magazines in Central America do not meet minimum quality criteria which puts them in a very weak position by not complying with the minimum frequency for publishing, nor do they have established editorial boards or any type of arbitration system which causes the most worrying aspect of all: the quality of the content is questionable and the magazine lives in a vicious circle in which materials are not worthwhile, nobody reads them, and nobody supports them but they continue to exist.

In Mexico there are 750 titles in the Latindex catalog, the same catalog that is used as a base by several agencies including the National Council of Science and Technology (CONACyT) to decide which magazines deserve some type of additional institutional support. Thus, the journals included in the register of CONACyT are magazines that were previously recorded in the Latindex catalog.

This paper presents figures from the end of 2014, taken directly from the Latindex website. It is important to note that these figures change almost daily. Another change worth mentioning is due to the rise of digitization, there are currently 4,260 digital magazines in the 22 countries that are in the Latindex system, while 10 years ago there were only a couple dozen.

Regarding the ignorance about our own magazines that was discussed earlier, in contrast to the constant publishing in our region especially in the academic realm, a consequence is that we know little about the magazines and use them even less.

In response to this situation several important initiatives that can be framed within the Open Access movement, but are prior to the formal establishment of OA, have emerged. The first was the creation of Latindex in 1995, a Latin American magazine information system created due to the lack of information about Latin American magazines. There was only a superficial and very partial idea of publishing in the magazine world-an activity which, incidentally, should be known and appreciated as an additional

task done by academics. This lack of recognition contributes to deepen the problems of our journals, which as was already stated are weak because most of the contributions, especially in the area of research, are submitted by authors to foreign magazines thus turning our back to our own means of publication.

Therefore as a resource that would allow us to understand a little better this panorama dichotomy of a divorce between mainstream journals published abroad and this great universe of journals published in our country, you would have to know first what you are editing and then introduce quality standards and support the publishers to improve their products. This is why Latindex was created.

In the same vein to regulate publications and give them more visibility, the SciELO system was subsequently created in Brazil. This system, now spread to several countries in the region, receives online journals in full text and provides access to them on a common platform. This procedure has become increasingly popular. There are now repositories to consult, no loose magazines, and complete collections of titles which obviously adds value to what is published.

Similarly, Redalyc was created in 2003 as a system that offered access to online journals, first in Social Sciences and Humanities. Today it has expanded its coverage from the point of view of disciplines, as well as from the geographical point of view and the services it offers. One aspect I want to emphasize is that the three initiatives (Latindex, SciELO and Redalyc) were born in the region not to emulate or imitate initiatives created elsewhere, or by any guidelines or instructions from other latitudes. They are strictly regional initiatives born in Latin America, and have even been expanded in various ways and is taken to be examples elsewhere by the success they have achieved.

Figure 2. Distribution of magazine publishing in Latin America

JOURNALS IN LATIN AMERICA & THE CARIBBEAN, CENTRAL AMERICA, AND MEXICO		
18,800	titles edited in Latin American & the Caribbean	
15,900	Are active	
	634 from Central America	1723 from Mexico
5,080	Are in the Latindex Catalog	
	151 from Central America	750 from Mexico
4,260	Are online magazines	
	255 from Central America	570 from Mexico
IMPORTANT INITIATIVES OF OA		
LATINDEX 1995	SciELO 1997	Redalyc 2003

Fuente: Latindex, November 2014

MAGAZINES IN CHIAPAS

In this entity at least 22 magazines are edited according to the Latindex directory. In the tables in figures 3 and 4 various data are presented, specifically on the activity and the editorial staff of these journals based on information provided by the publishers themselves or published in the journals themselves. Of these 22 journals however, only a few are active: *Devenir*, *Eco-fronteras online*; *Espacio I+D Innovación más Desarrollo* (purely online magazine), *LiminaR*, *Quehacer Científico en Chiapas*, *Revista Paktal*, *Revista Tecnología digital* and *Staobill*.

Figure 3. Editorial Panorama in Chiapas (periodicals)

TÍTULO	STATUS	YEAR ESTABLISHED	TOPICS
Anuario IEI	Disc	1986	Anthropology, Sociology
Boca de Polén	Disc	1994	Multidisciplinary
Boletín de información. Centro de Inv. Ecol. del Sureste	Disc	1977	Ecology
Ciencia y tecnología en la frontera	Disc	2004	Local multidisciplinary studies
Cuadernos de arquitectura y urbanismo (Tuxtla Gtz)	Disc	1995	Architecture
Devenir	Active	2004	Social sciences and humanities
Ecofronteras en línea	Active	2013	Multidisciplinary
Econoticias	Disc	1977	Ecology
Espacio i+d. <i>Innovación más desarrollo</i>	Active	2012	Multidisciplinary
Fin de siglo	Disc	1994	Multidisciplinary
Lakamhá	Disc	2001	Archeology
LiminaR	Active	2003	Social sciences and humanities
Nop'Tik	Disc	1992	Linguistics, social sciences and humanities
Nuestro saber	Disc	1994	Multidisciplinary
Quehacer científico en Chiapas	Active	1998	Multidisciplinary
Revista CIHMECH	It ceased	1987	Social sciences and humanities
Revista de difusión científica-tecnológica y humanística	Disc	1990	Multidisciplinary

Revista de la Universidad Autónoma de Chiapas	Disc	1976	Multidisciplinary
Revista electrónica agroecología tropical	Disc	2002	Agronomy
Revista pakbal	Active	2002	Civil Engineering
Revista tecnología digital	Active	2011	Computer sciences, Administration, Accounting, Tourism
Stabíl lekilal ta lekil abtel	Active	2011	Computer Sciences

Fuente: Latindex, October 2014

Statistically, therefore, there is a great editorial instability: of 22 journals, only 8 are active. This problem is not unique to Chiapas, because although there are passionate people dedicated to publishing magazines, their work is not valued in general and therefore will not be supported nor taken into account in an academic evaluation.

An example of stability in Chiapas, among other publications, is the Journal *LiminaR* of the University of Science and Arts. This appears indexed in a large number of services, which not only recognizes the quality of the magazine, but also naturally helps its presence and prestige and influences those who are thinking of sending an article and looking for a place to publish to choose this magazine since being indexed ensures that the work will be publicized and therefore more appreciated.

Figura 4. Editorials and cataloging of Chiapas Journals

TITLE	EDITORIAL	INDEX/ SUMMARY IN	NAT.
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Anuario IEI	UNACH, Instituto de Estudios Indígenas	Clase	DCC
Boca de polén	UNACH	Clase	TP
Boletín de información. Centro de Inv. Ecol. del Sureste	Centro de Investigaciones Ecológicas del Sureste	Periódica	TP
Ciencia y tecnología en la frontera	Consejo de Ciencia y Tecnología del Estado	Periódica, Latindex-Catálogo	DCC
Cuadernos de arquitectura y urbanismo (Tuxtla Gtz)	UNACH, Facultad de Arquitectura, Coordinación de Posgrado	Clase	TP
Devenir	UNACH, Cuerpo Académico Educación y Desarrollo Humano	Latindex-Catálogo	IC
Ecofronteras en línea	El Colegio de la Frontera Sur		DCC
Econoticias	Centro de Investigaciones Ecológicas del Sureste	Periódica	DCC
Espacio i+d. Innovación más des.	UNACH,	Latindex-Catálogo	DCC
Fin de siglo	Consejo Estatal para la Cultura y las Artes de Chiapas		DCC
Lakamhá	INAH, Museo de Sitio de Palenque		DCC
LiminaR	Univ. de Ciencias y Artes de Chiapas	Lat-Cat, CONACYT, Clase, BV CLACSO, Dialnet, e-Revistas, HAPI, Inf Acad, Redalyc, SciELO	IC
Nop'Tik	UNACH, Escuela de Lenguas Tuxtla Gutiérrez		DCC
Nuestro saber	UNACH	Clase	DCC

Quehacer científico en Chiapas	UNACH	Periódica	DCC
Revista CIHMECH	UNAM, Centro de Inv. Human. de Mesoam. y el Est. de Chiapas	Clase	DCC
Revista de difusión científica-tecnológica y humanística	Consejo Estatal de Fomento a la Inv. y Difusión de la Cultura	Periódica	DCC
Revista de la Universidad Autónoma de Chiapas	UNACH		DCC
Revista electrónica agroecología tropical	UNACH, Facultad de Ciencias Agronómicas		TP
Revista pakbal	UNACH, Facultad de Ingeniería		TP
Revista tecnología digital	Editorial Tecnológica Didáctica	Latindex-Catálogo	TP
Staobíl lekilal ta lekil abtel	UNACH, Facultad de Contaduría y Administración	Latindex-Catálogo, Clase	IC

Fuente: Latindex, October 2014

THE MEANING OF OA FOR OUR JOURNALS

Of the number of titles we have online in Latin America (4,260), 95% are free and open access. In other words, they have no reservation to share content with the general public, which contrasts with the material published in scientific journals in the United States and Europe, which are commercial magazines with usually very high costs. However this is not the tradition in Latin America, where almost all journals are and have always been freely available. The problem, however, is in access: how accessible are they really? This is a technical, as well as political and economic issue.

In the table below you can see the figures on the distribution of magazines in Latin America. Brazil is by far the country with most magazines. There are countries like Nicaragua, the Dominican Republic and Paraguay, which as official policy have all their journals open access and free to the public.

Figure 5. Distribution of journals in Latin America

of the 4,260 titles in Latin America & The Caribbean online,
94.5% are open access and free

COUNTRY	ACCESS TO JOURNALS ONLINE		TOTAL
	FREE	RESTRICTED	
Argentina	537	12	549
Bolivia	16	2	18
Brazil	1608	5	1613
Chile	333	4	337
Colombia	67	8	75
Costa Rica	141	6	147
Cuba	103	26	129
Ecuador	56	3	59
Guatemala	10	2	12
Mexico	640	126	766
Nicaragua	66	0	66
International organizations	16	0	16
Panama	10	1	11
Paraguay	14	0	14
Peru	43	1	44
Puerto Rico	40	15	55
Dominican Republic	20	0	20
Uruguay	95	13	108
Venezuela	89	1	90
Others	15	1	16

Fuente: Latindex, February 2013

WHY ARE WE INTERESTED IN OA?

Why do we care or are interested in joining this international movement of Open Access? There are several reasons: First, to take advantage of the benefits of an international movement, which means that policies and actions are taken in favor of magazines. For example, CONACyT in Mexico has ruled that those magazines that want to enter the registry and want to be supported and recognized as the best Mexican magazines have to be open access- the material that is published must be accessible to all.

What other benefits are there? They are inserted in the international context, through open access platforms. How can we insert ourselves in this international movement, not leaving behind what has to this point been our characteristics that represent comparative advantages? The region has a virtually shared common language, with the exception of Portuguese. We also have the tradition of free and open access and common problems which invites us to precisely make magazines that fulfill the function of communicating results (ours and of others) research on these common problems and in many cases is not of interest to journals published elsewhere.

We have to keep our own communication media, publishing and production. We cannot be totally dependent on what is published and what is decided to publish elsewhere. We also have a comparative advantage in that we have created systems and information services in the region that are ours, that work and are within our reach.

WHAT CHALLENGES DO MAGAZINES AND PUBLISHERS FACE?

But what are the challenges facing our magazines? First, the quality of the content. Until there is good science, there are no good

magazines- there is no point to continue insisting on the quality of journals if the contents are not worthwhile. That's one of the limiting factors- the extent of the strengthening of research capacity and knowledge generation in our universities, which are at the same time major publishers of academic journals in our countries.

Other conditions are also required, for example: institutional policies to support science and scientific publications. Their lack is reflected in the fact that the effort of publishers, authors, peer reviewers, i.e. the actors involved in the production of scientific journals, is not valued.

We have another challenge to face-the strength of the prevailing magazines from the north that not only control the market but often also the rules- they define in practice what is good science and what is a good magazine. This is a challenge we must face constructively, taking into account the maturity that has been acquired which allows us to participate in defining the criteria. Not making our criteria defined by others, but to participate in defining international standards is what we should be doing, from our own perspectives and experience.

Figure 6. Benefits of OA for the region

WHY ARE WE INTERESTED THEN IN OA?

To take advantage of the benefits of the OA movement:

- Policies & actions in favor of journals
- Insertion into the international context

Using our comparative advantages:

- The tradition of free and open access
- Common characteristics
- Cooperative initiatives in the field.

A final challenge relates to the lack of awareness to the meaning of Open Access, even within the scientific community. There is fear..... a sense of uncertainty....and this is clearly seen in Mexico during discussion of the legislative initiative on open access to scientific information which was presented in 2013 and culminated in the adoption of legal reforms in education, science and technology with line items especially dedicated to the access to scientific information.

Figure 7. Challenges for digital publishing

WHAT CHALLENGES DO JOURNALS FACE?
Weakness in our systems of scientific investigation and higher education
A lack of institutional policies that support science and scientific publications.
A dependence on the guidelines from the north.
The extensive precariousness of our journals.
Lack of awareness, fear, and incertitude of the community about OA.

Resistance to this initiative and proposed legislation came from the academic community In the respective consultation forums. Why? For all of the false dilemmas that have been created around OA. For example, it is said that OA seeks to eliminate peer review. However, there is information based on sound analysis which does see that this statement is false and misleading. There is as much rigor in the (good) refereed open access journals as in the (good) commercial mainstream journals.

A second argument is that it is not fair to give away our research abroad. On the contrary, now we are giving it away (and then having to pay for access to them) and the purpose is to make them public.

Third, it is said that open access journals are of poor quality and are not economically sustainable. However, as there are open access journals that do not have quality and are not sustainable, among those many trade magazines that besides not being open access are also poor quality nor are sustainable. It is further believed that open access has a residual presence in scientific communication, but this is no longer true. Of course at first there were numbered titles, but they are growing in number in a remarkable way. In Figure 9 we can see the development of open access that shows how the situation is changing dramatically, both in number of articles (in blue) and number of journal titles (in red).

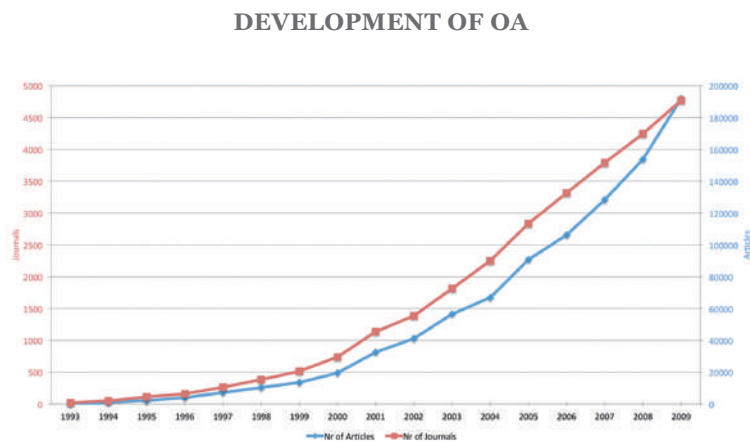
Figure 8. Dilemmas of Open Access

THE FALSE DILEMMAS OF OA
"Open Access wants to eliminate" (peer review).
"It's not fair to give away our investigations to foreigners".
"The OA journals are of poor quality and are not economically sustainable".
"Open Access has a residual presence in the scientific community".
"The OA is a way to skip Copyright".
"Scientists are not interested nor motivated by open access".

Finally, it is said that scientists are not interested or motivated by open access. Here there is an interesting attitude from scientists, and I mean not only in our country but in general. It is a dichotomous or ambiguous attitude, one could even call it schizophrenic, because when we want to read an article and cannot access it, it is a bother. We want it to be open access. When you think of publishing, however, there are still many people who

have reserves about publishing in an open access magazine, albeit of the same quality and the same level, and prefers to go with the magazines by Elsevier, Springer, or ISI Thomson which are not even proper publishing companies but are rather aggregators/commercial intermediaries.

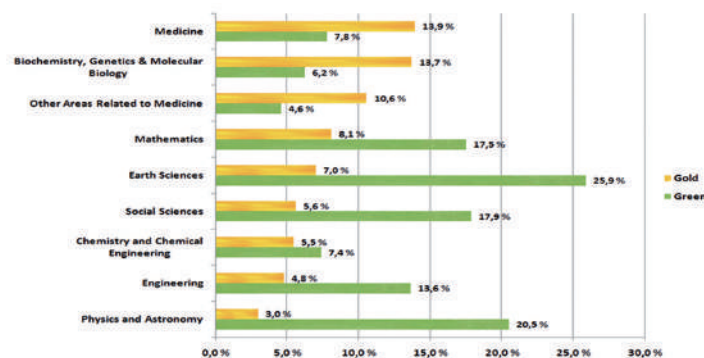
Figure 9. Advances in OA



Source: Wikipedia

Figure 10. Distribution by discipline

ARTICLES IN OA BY DISCIPLINE (GOLD AND GREEN BARS)

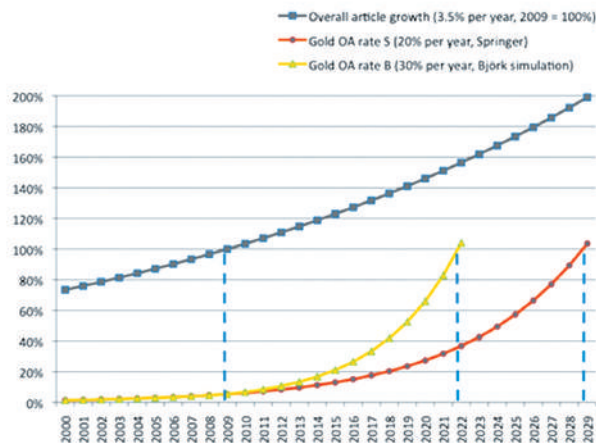


Source: Wikipedia

In Figure 10 we can see the number of articles in open access and appreciate how this number varies by discipline. To better understand this graph, remember that the green bars represent items that are deposited in repositories, which can be for example arXiv or also the repositories in each of the disciplines. The gold bar is which benefits commercial. Aggregators, because they are changing their publishing model. Now instead of charging for the subscription to a particular journal, what they are doing is adding the option to charge for the publication of the article. Payment must be done by the author or their institution, and they aren't cheap. It can cost \$ 5,000 dollars to publish an article. I think the “gold comes from the business that is done”: the items are put on open access in exchange for what the authors have contributed in cash (plus all the work invested in the article itself). Frequently in addition there is an embargo period, say six months, after which the article is open access; but the deal has already been signed.

Figura 11. Projections

PROJECTIONS OF OA VIA GOLD ROUTE



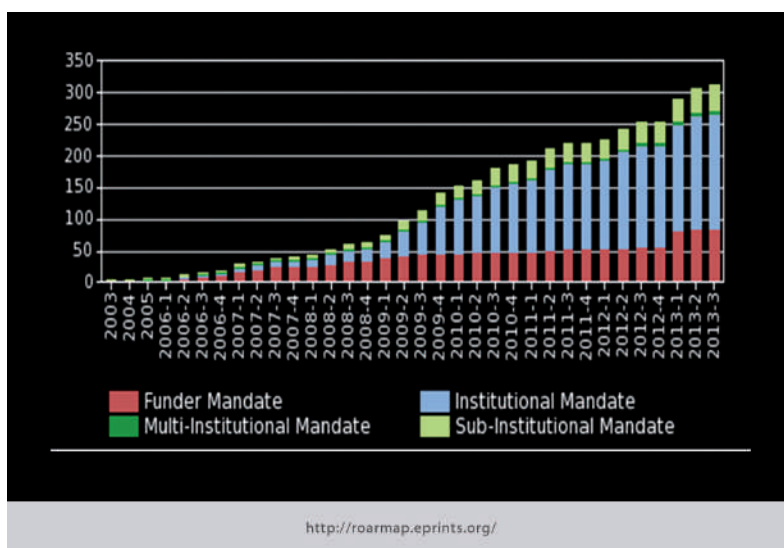
Poynder, Richard (2011). Open Access By Numbers Open and Shut June 19, 2011

The golden rate is also growing significantly because commercial publishers and aggregators are reviewing their business models to jump on the bandwagon of open access and benefit from the growing importance of this movement.

A FEW STRATEGIC STEPS TOWARDS OPEN ACCESS

What can be done so that we increasingly have free and open access to the publications of all the magazines, not just a few or only journals published in Latin America? What can make this happen, and fortunately is already happening in some countries, are specific policies and mandates that give preference to encourage or require their authors and researchers in an institutional repository to publish their articles.

Figure 12. Policies to promote OA

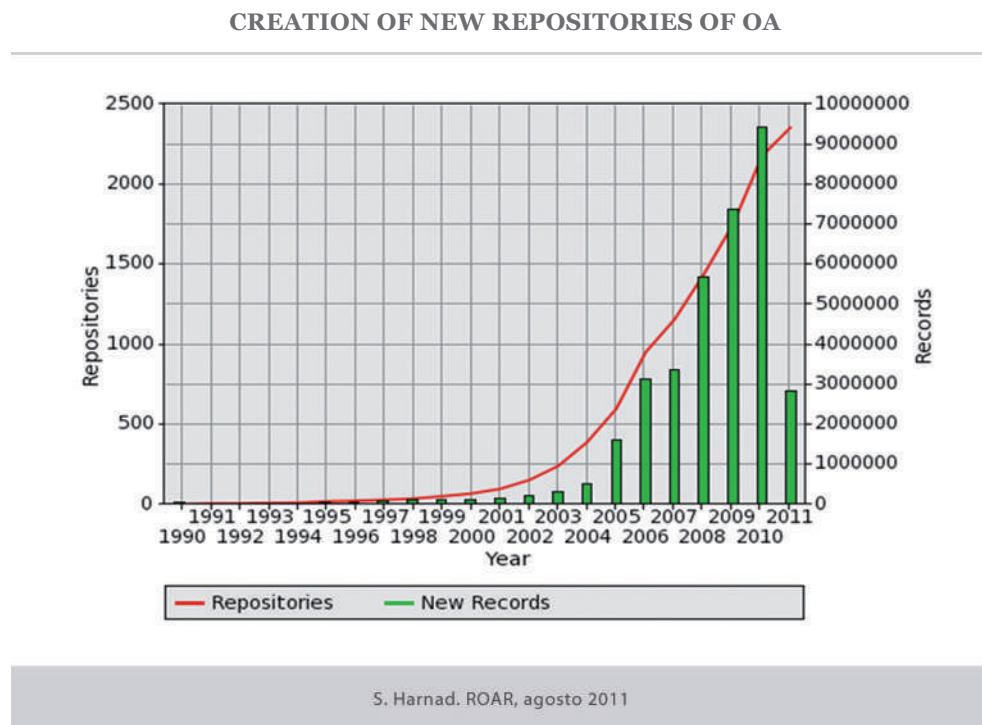


As we can see in the graph, these policies and mandates and have a positive effect in many countries. In the United States the mandate issued a couple of years ago by the Office of Science and Technology of the President already has an impact on the creation of institutional repositories where authors must deposit copies of

their publications. In other countries, there are mandates at various levels: national, governmental, institutional, etc. These mandates are the ones making the open access movement spread rapidly.

This means in particular that many universities have been willing to create their own repositories. Creating repositories is also increasing rapidly. The graph in Figure 13 reaches mid-2011, but the slope continues. Just one of the articles of the new legislation in Mexico talks about the creation of a national repository which will be conducted by CONACyT. Ideally, this national repository rests in a specialized institution or agency, discipline or field of study, created to harvesting and disseminate publications by out scientists.

Figure 13. . Institutional Repositories



Therefore it is considered important that at the institutional level we present these strategic steps to follow, and also that authors

think of using repositories to place thier material so that it is made more widely known. With that, ultimately, we hope that what have been our own magazines - always open access, always free – and the journals from the North with closed access, but are seeking the way to open – come together and form an organic system which is more coherent, more inclusive, more accessible with magazines that are not only for research but also for the dissemination of science and culture and to support professional and educational work.

Figure 14. Strategic Steps



*The internet and OA are not a panacea,
but they are here...
and provide valuable opportunities*

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