

The trend of English, French, German, and Russian publications in the world wide used database (Medline)

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Abstract

After exploring the trend of publications language in a very famous database in the USA (Medline), all publications of three non-English speaking countries (France, Germany, and Russia) in English and domestic languages indexed in the Medline through 1965-2005 were extracted and analysed.

The study showed that the editorial policy of Medline is undergoing change. The policy makers of this database have focused their attention on the literature of science in English.

1 Introduction

Science and scientific literature is growing and going to be more and more global and multilingual. Simultaneously the core of scientific publications is written more and more often in English.

It is a generally accepted idea that English is the lingua franca of science today. In earlier times, it was Latin or sometimes also French, but now it is without any doubt since the last century English.

If we had a look to the literature of science a hundred year ago, we could find that the languages of scientific literature were few, and consisted to almost 90% of in English, French, and German, Russian and very few other languages.

Currently, we know that the global growth of science literature has brought up in other languages, such as Chinese, Japanese, Persian, Russian, Spanish, Turkish, and many other languages.

Such changes in the world of science would lead to the transformation of editorial policies for choosing publications to entering the necessary languages data to the databases like Medline, SCI and etc.

On the other hand, the increasing dominance of English on the international relation of scientific collaboration has strongly affected the language of science literature. English is being developed as the main language in the world of science. The reason is clear- a great deal of communication systems are in English. In fact, it should be in English so that it can be understood by international colleagues in the world of science. The scientists even in non-English speaking countries prefer to publish their works in English. It has some advantages; literature written in English attracts a great number of citations. Colleges distributed all around the world are in better collaboration.

Databases, such as Medline and SCI in the USA, have focused their attention on the literature of science in English. Some previous studies confirmed that the editorial policy for such database in the USA is being changed.

Michele Bedard, Jennifer L. Greif and Todd C. Buckley (2004) analysed 13,865 journal articles on trauma published between 1987 and 2001 indexed in the database of PILOTS (An Electronic Index to the Traumatic Stress Literature). Their study showed that 94% of trauma literature was published in English.

Boldt J., Maleck W. and Koetter K.P. (2005) studied the papers published in the 10 intensive care medicine journals indexed in the JCR for two periods, 1992 – 1997, and 1998-2003. They took only into consideration the original papers from German universities. They found out that the total number of publications for German

universities during 1998-2003 has 100% increased with compare to 1992-1997. The number of publications for German universities increased from 621 during 1992-1997 into 1,245 during 1998-2003.

Alvar Loria and Pedro Arroyo (2005) classified Medline's journal articles by country of publication and language in 1966 and again from 1970 to 2000 at five-year intervals. Their study showed that English papers increased linearly and non-English paper decreased at a rate of 1,056 fewer papers annually. They suggested that the developing trend of English language in Medline was due to the Medline's editorial policies changing that Medline has been increasingly deselecting journals from non-Anglo countries.

Biglu, M.H. (2006) in a study found that from a total number of 427 journals published in Germany in 2005 and indexed in the JCR only 11% of them were in German the rest were in English or multi language. From 146 French journals indexed in the JCR in 2005, 23% were in French, the rest were in English or multi language.

In another study¹ Biglu, M.H. found that 93.3% of total publications in Tabriz University of medical science were published in Persian, and only 6.7% of them were published in English throughout 1988-1996.

Mauricio L. Barreto (2006) analysed the epidemiological articles produced in Brazil that published in the journals indexed in Medline between 1985 and 2004. They found that there was a predominance of the English language among articles by Brazilian authors indexed in the Medline database.

Jacques Méritz (2007) in his essay emphasised that English is on its way to becoming the dominant global language. He believes that the global dominance of English is bad news for world literature, because only those written in English will have a chance of reaching a world audience and achieving 'classic status.'

In another study Zhang Haiqi, Shigeaki Yamazaki and Kazuo Urata (2007) found that the percentage of English-language paper in Medline climbed steadily from 75.3% to 86.3% throughout 1984-1994.

In this context I am interested in exploring the changing of editorial policy of a very famous database in the USA (Medline).

After exploring the trend of publications language in these databases, all publications of three non-English speaking countries (France, Germany, and Russia) in English and domestic language indexed in the Medline and SCI through 1965-2005 were extracted and analysed.

The four languages mentioned above were chosen according to my previous study, showed that English, German, Russian, and French were more frequented languages in the Medline.

Method:

Several types of documents indexed in the Medline (PubMed) through 1965-2005 were extracted. The proportion of English and domestic languages for countries were determined.

The trends of English, French, German, and Russian languages in the Medline were expected.

¹ Biglu, Mohammad Hossein (2005). A bibliometric study of scientific out put in tabriz University of Medical Science. Processing of ISSI 2005, Vol. 2, 650-651. Karolinska University Press, Stockholm, Sweden 2005.

2 Findings

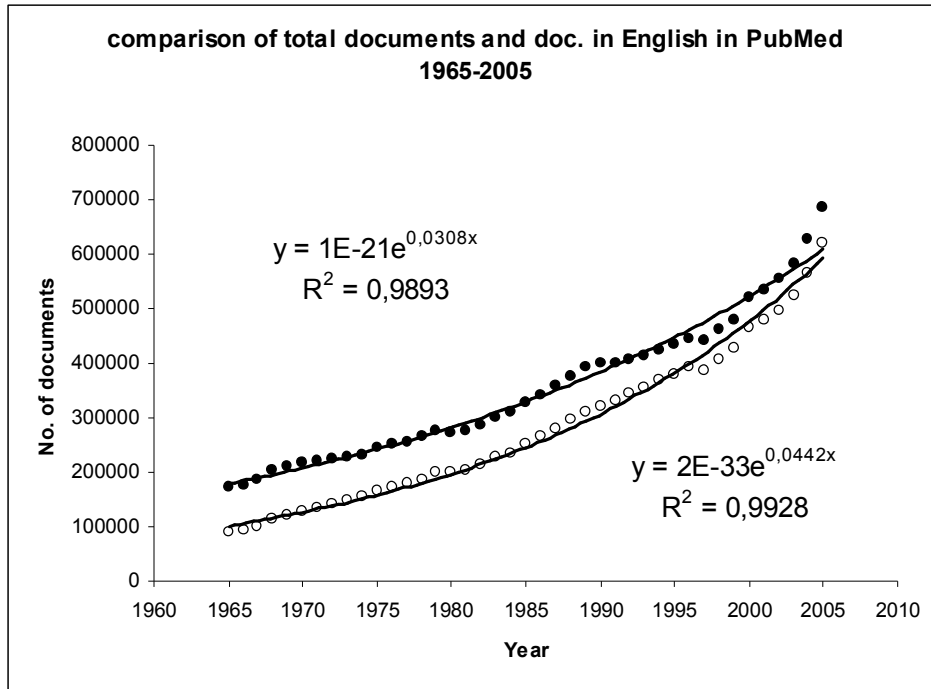


Figure 1: Comparison of total Publications and publications in English in PubMed 1965-2005

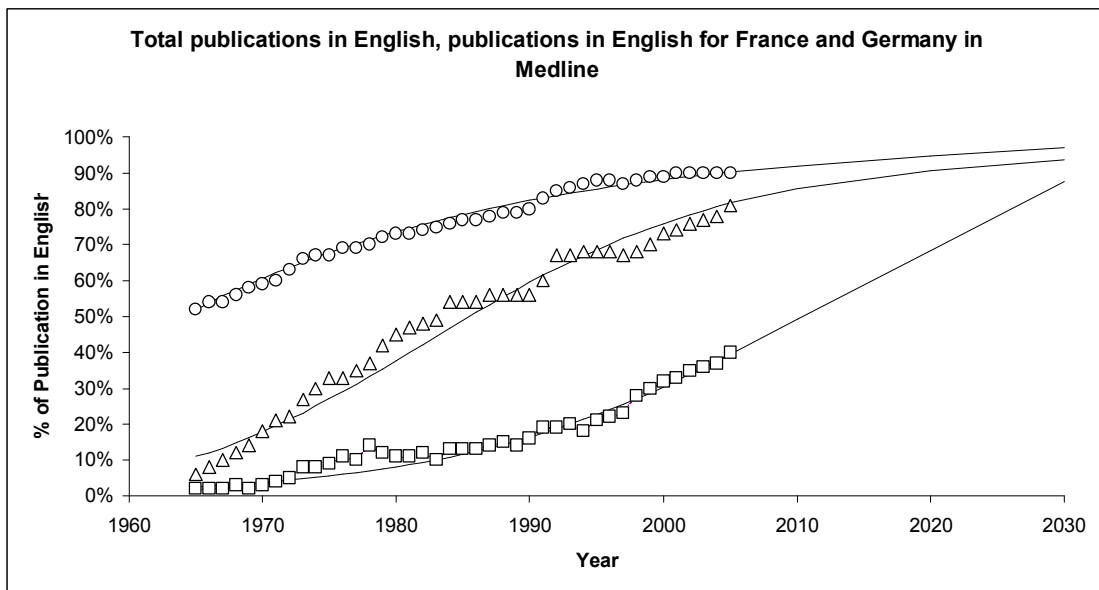


Figure 2: The proportion of publications in English in PubMed 1965-2005

Figure 1 shows the number of total publications and publications in English in PubMed through 1965-2005. The doubling time of total publications in PubMed through 1965-2005 was 22.5 years whereas the doubling time for publications in English was 15.7 years. In other words, the doubling time of Publications in English was 44% faster than the total Publications in PubMed.

The percentage of documents in English has increased steadily through 1965-2005. It reached from 52% in 1965 to 90% in 2005 an increase of 72%.

Figure 2 shows the percentage of total publications in English (○), the percentage of publications in English for Germany (Δ), and the percentage of publications in English for France (□) in Medline through 1965-2005.

The graph predicts that the percentage of publications in English in Medline will reach to the 97% in 2030, and the percentage of publications in English for Germany and France will reach to the 94% and 88% respectively in 2030.

Table 1:
Total number of total documents and documents in English in PubMed through 1965-2005

Year	Total doc in PubMed	Total doc in English	%of documents in English
1965	173880	91188	52%
1966	175784	94340	54%
1967	187783	101330	54%
1968	204852	113748	56%
1969	212030	122281	58%
1970	215656	128000	59%
1971	220464	132776	60%
1972	223932	140211	63%
1973	227409	149198	66%
1974	230950	153703	67%
1975	245273	165164	67%
1976	250155	171405	69%
1977	256848	177589	69%
1978	266627	187063	70%
1979	275633	198719	72%
1980	273826	199480	73%
1981	276184	202812	73%
1982	287336	213962	74%
1983	301194	226432	75%
1984	310074	235463	76%
1985	327155	251258	77%
1986	340615	263839	77%
1987	358569	280224	78%
1988	376980	296391	79%
1989	393466	310874	79%
1990	400157	322097	80%
1991	401638	332288	83%
1992	405970	345378	85%
1993	413581	354811	86%
1994	423661	368095	87%
1995	434222	380684	88%
1996	444774	391721	88%

1997	442966	387152	87%
1998	461668	407238	88%
1999	480129	426584	89%
2000	521442	466426	89%
2001	533719	478615	90%
2002	553949	497474	90%
2003	584267	524353	90%
2004	626100	564030	90%
2005	687262	621537	90%

Table 1 illustrates that the portion of documents in English has dramatically rose through 1965-2005.

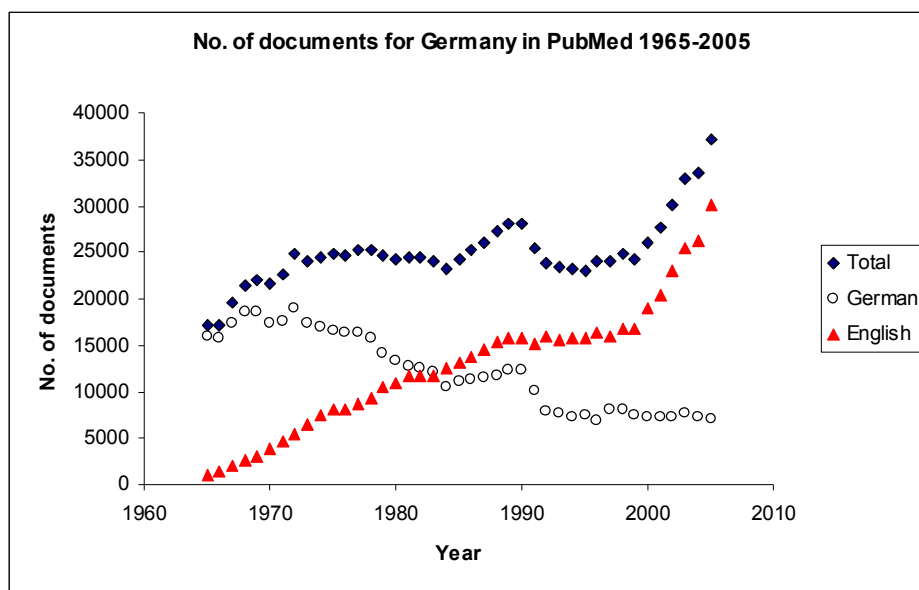


Figure 3: Total number of documents in Germany, and the number from those that are written in English and German, 1965-2005.

Figure 3 illustrates the total number of documents for Germany, those written in German, and in English throughout 1965-2005.

The total number of publications for Germany enjoyed relatively a fast growth during 1984-1998. From 1990 it begun to fall until 1996. This fall was simultaneously with the fall of publications in German which showed continues decrease since 1990.

The number of publications in German fell from 93% of total documents in 1965 to 19% in 2005.

The proportion of publications in English rose dramatically since 1999. The percentage of documents in English increased from 6% in 1965 to 81% in 2005.

The increasing number of publications in English has caused to increase the number of total publications for Germany dramatically.

In spite of the decreasing trend of publications in German, the number of publications in English for Germany rose. Accordingly, the number of publications for Germany showed a sharp rise.

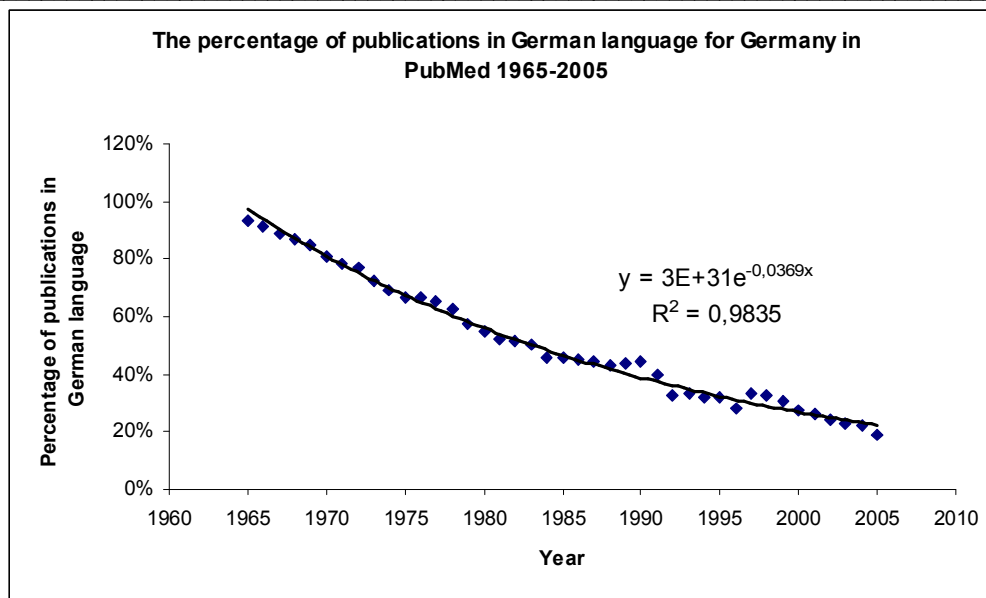


Figure 4: The percentage of documents in German for Germany in PubMed 1965-2005

Figure 4 shows the percentage of publications in German for Germany through 1965-2005.

Table 2:

Total number of documents for Germany in PubMed, documents in German and documents in English for Germany through 1965-2005

Year	Total documents in PubMed for Germany	Total documents in German language	% German	Total documents in PubMed for Germany in English	% English
1965	17097	15922	93%	1031	6%
1966	17215	15664	91%	1414	8%
1967	19570	17385	89%	1973	10%
1968	21490	18597	87%	2681	12%
1969	21931	18655	85%	3047	14%
1970	21579	17463	81%	3865	18%
1971	22561	17619	78%	4710	21%
1972	24796	19016	77%	5553	22%
1973	24103	17440	72%	6477	27%
1974	24432	16880	69%	7399	30%
1975	24833	16571	67%	8097	33%
1976	24552	16384	67%	8056	33%
1977	25345	16464	65%	8752	35%
1978	25212	15790	63%	9307	37%
1979	24716	14129	57%	10430	42%
1980	24323	13280	55%	10916	45%
1981	24540	12787	52%	11651	47%
1982	24390	12493	51%	11772	48%

1983	23999	12128	51%	11776	49%
1984	23163	10586	46%	12508	54%
1985	24299	11154	46%	13052	54%
1986	25193	11381	45%	13724	54%
1987	26049	11475	44%	14460	56%
1988	27181	11740	43%	15345	56%
1989	28110	12255	44%	15806	56%
1990	28157	12419	44%	15688	56%
1991	25400	10176	40%	15162	60%
1992	23909	7860	33%	15994	67%
1993	23355	7736	33%	15583	67%
1994	23229	7371	32%	15791	68%
1995	23116	7419	32%	15657	68%
1996	24139	6778	28%	16461	68%
1997	24040	8024	33%	16037	67%
1998	24804	8056	32%	16765	68%
1999	24157	7374	31%	16821	70%
2000	26060	7185	28%	18914	73%
2001	27704	7288	26%	20451	74%
2002	30107	7194	24%	22952	76%
2003	33002	7623	23%	25413	77%
2004	33557	7342	22%	26252	78%
2005	37111	7115	19%	30075	81%

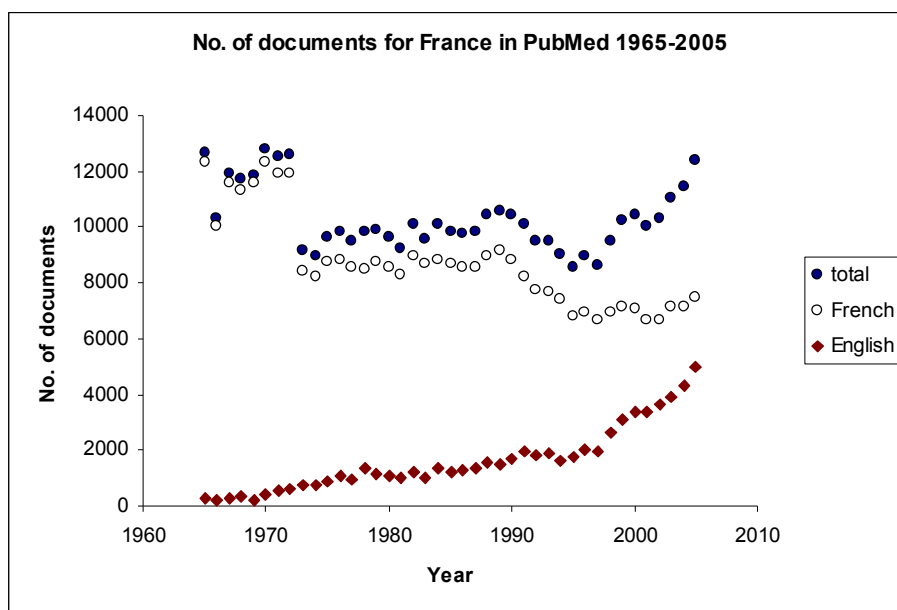


Figure 5: Total number of Publications in France, and the number from those that are written in English and French 1965-2005.

The figure 5 plots the number of total documents, documents in French, and documents in English for France throughout 1965-2005 in PubMed.

The graph indicates that the number of publications for France decreased steady from 1990 to 1997. Since 1998 it showed a relatively sharp growth.

The numbers of publications in English showed relatively slight rise from 1965 until 1977. Since 1998 the proportion of documents in English showed a dramatic rise.

It is considerable that the number of publications in French showed a fall since 1989. Decreasing trend of publications for France continued to the end of fiscal year 2005.

The proportion of publications for France in English showed dramatic rise since 1998; consequently caused to raise the number of publications in France.

Table 3:
Total number of documents for France, documents in French, and documents in English for France through 1965-2005

Year	Total documents for France in Pubmed	Documents for France in French	%in French	Documents for France in English	% in English
1965	12685	12348	97%	286	2%
1966	10312	10033	97%	212	2%
1967	11890	11589	97%	240	2%
1968	11735	11319	96%	359	3%
1969	11860	11600	98%	186	2%
1970	12773	12332	97%	381	3%
1971	12486	11905	95%	526	4%
1972	12593	11910	95%	625	5%
1973	9173	8417	92%	737	8%
1974	8938	8217	92%	731	8%
1975	9641	8756	91%	876	9%
1976	9854	8814	89%	1079	11%
1977	9521	8570	90%	933	10%
1978	9829	8506	87%	1373	14%
1979	9908	8771	89%	1154	12%
1980	9622	8554	89%	1105	11%
1981	9210	8259	90%	1012	11%
1982	10093	8967	89%	1228	12%
1983	9555	8654	91%	977	10%
1984	10094	8828	87%	1357	13%
1985	9847	8704	88%	1243	13%
1986	9780	8575	88%	1283	13%
1987	9818	8543	87%	1340	14%
1988	10410	8951	86%	1532	15%
1989	10548	9142	87%	1460	14%
1990	10439	8786	84%	1693	16%
1991	10094	8193	81%	1949	19%
1992	9507	7768	82%	1789	19%
1993	9467	7657	81%	1875	20%
1994	8986	7411	82%	1601	18%
1995	8580	6808	79%	1781	21%
1996	8975	6963	78%	2010	22%
1997	8599	6658	77%	1941	23%
1998	9510	6904	73%	2642	28%
1999	10203	7101	70%	3105	30%
2000	10423	7063	68%	3381	32%
2001	10022	6694	67%	3337	33%

2002	10304	6693	65%	3627	35%
2003	11062	7132	64%	3933	36%
2004	11445	7167	63%	4289	37%
2005	12397	7448	60%	4973	40%

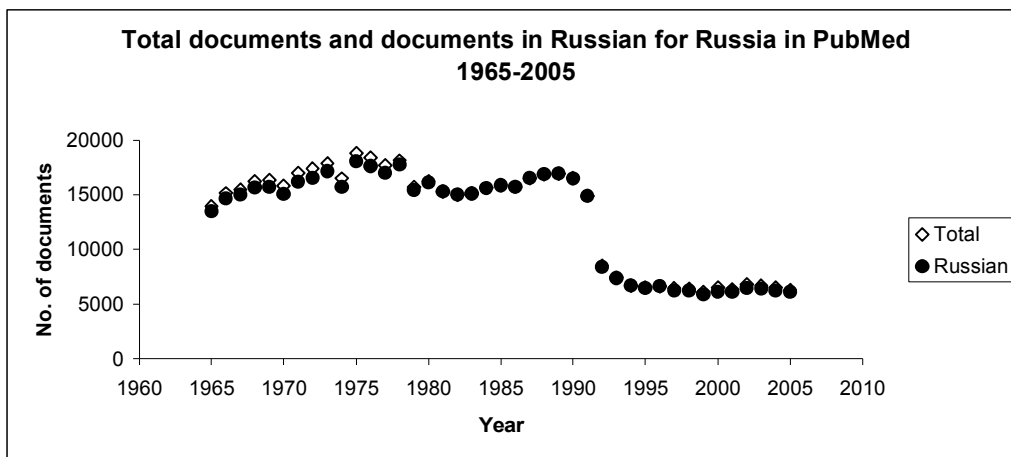


Figure 6: Total number of documents and documents in the Russian language for Russia 1965-2005

The figure 7 shows the total number of documents for Russia, and the number from those that are written in Russian and in English through 1965-2005.

Since 1990 there was a drop for the number of publications for Russia in PubMed. It is clear that since 1997 the number of publications in English rose and consisted at an average of 4% of total publications through 1997-2005.

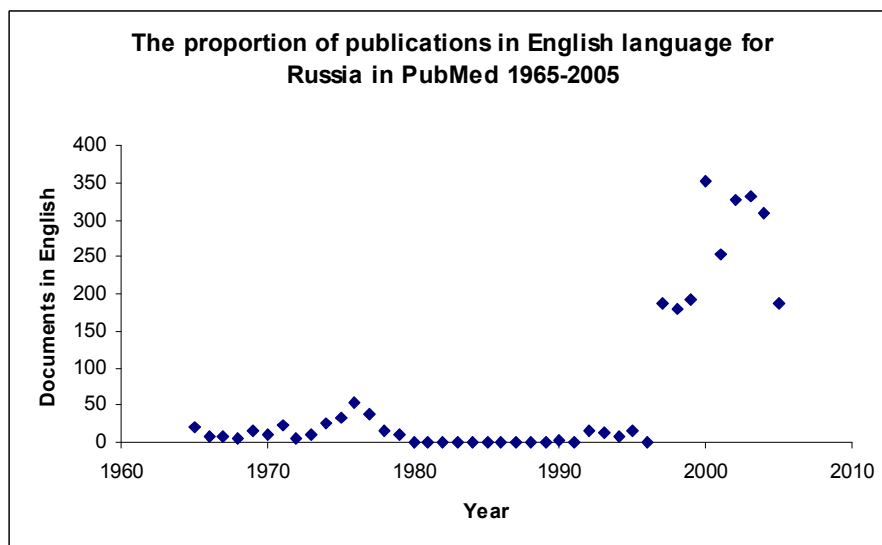


Figure 7: The proportion of publications in English for Russia in PubMed 1965-2005

The figure 8 indicates that the portion of publications in English for Russia has increased since 1997.

Table 4:
Total number of documents and documents in Russian for Russia in PubMed through
1965-2005

Year	Total documents for Russia in PubMed	Documents in Russian for Russia	% of documents in Russian for Russia	Documents in English for Russia
1965	13939	13491	97%	19
1966	15146	14652	97%	8
1967	15479	15010	97%	8
1968	16257	15668	96%	5
1969	16316	15689	96%	14
1970	15811	15055	95%	11
1971	16991	16196	95%	24
1972	17393	16560	95%	6
1973	17902	17141	96%	10
1974	16497	15707	95%	25
1975	18795	18058	96%	33
1976	18418	17625	96%	53
1977	17711	16977	96%	37
1978	18125	17759	98%	14
1979	15718	15420	98%	10
1980	16257	16103	99%	0
1981	15277	15275	100%	0
1982	15015	15012	100%	0
1983	15150	15083	100%	1
1984	15624	15621	100%	0
1985	15877	15873	100%	0
1986	15738	15737	100%	0
1987	16533	16533	100%	0
1988	16885	16884	100%	1
1989	16933	16928	100%	0
1990	16515	16494	100%	2
1991	14917	14879	100%	1
1992	8485	8382	99%	16
1993	7422	7362	99%	13
1994	6688	6681	100%	7
1995	6493	6479	100%	15
1996	6633	6632	100%	1
1997	6427	6250	97%	187
1998	6386	6208	97%	179
1999	6089	5898	97%	192
2000	6496	6145	95%	351
2001	6356	6105	96%	252
2002	6801	6474	95%	327
2003	6723	6418	95%	332
2004	6493	6209	96%	308
2005	6274	6118	98%	187

3 Conclusion

Analysis of data showed that the doubling time of total publications in Medline (PubMed) in English was 44% faster than the doubling time of total publications in Medline throughout 1965-2005. The doubling time of total publications was 22.5 years whereas the doubling time for publications in English was 15.7 years. The proportion of documents in English showed dramatically increase through 1965-2005. It reached from 52% in 1965 to 90% in 2005 an increase of 72%. Analysis of study predicted that the percentage of publications in English in Medline will reach to the 97% in 2030 (figure 2).

The total number of publications for Germany in Medline enjoyed relatively fast growth during 1984-1998. From 1990 it begun to fall until 1996. This fall was simultaneously with the fall of publications in German which showed continues decline since 1990.

The number of publications for Germany in German fell from 93% of total publications in 1965 to 19% in 2005.

The proportion of publications for Germany in English rose dramatically since 1999.

The percentage of publications in English increased from 6% in 1965 to 81% in 2005.

The increasing number of publications in English has caused to increase the number of total publications for Germany dramatically.

In spite of decreasing trend of publications in German, the number of publications in English for Germany rose. Accordingly the number of publications for Germany showed a sharp rise since 1999.

The number of publications for France in Medline decreased steady from 1990 to 1997. Since 1998 it showed a relatively sharp growth. Since 1998 the proportion of publications for France in English showed a dramatic rise; whereas the number of publications in French showed a fall since 1989. The decreasing trend of publications in French for France continued to the end of fiscal year 2005.

Since 1990 there was a drop for the number of publications for Russia in Medline. Since 1997 the number of publications in English rose and consisted at an average of 4% of total publications through 1997-2005. On the other hand, the number of publications for Russia in Russian decreased dramatically since 1989; whereas the number of publications in English increased dramatically since 1993.

The most interesting findings of this study were that evidently the reduction of publications for Germany in Medline through 1990 – 1999 was not due the fall of the Berlin Wall on November 1989. It was due the changing of editorial policy in Medline.

Because the study showed that the publications of Germany in German decreased continuously since 1978; whereas the proportion of publications in English for Germany increased throughout the period of study and very sharply since 1999. Furthermore the proportion of publications for France in French, as well as the proportion of Russian for Russia steadily decreased since 1989. At the same time the proportion of publications in English for France and for Russia increased.

Acknowledgement

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