comparison to other fields, though there is a slight increase in the field in each decade. In computer science, the high of 35.8% was reached in 1986, declining in 1996. Following the same trend, in 2006 there was a decline in the percentage to 20.5%, almost the same level from which it had risen in 1976.

Figure 1: Doctorates earned by women in selected STEM fields, 1966-2006. *Source*: National Science Foundation, Division of Science Resources Statistics, 2008, *Science and engineering degrees: 1966–2006* (Detailed Statistical Tables) (NSF 08-321) (Arlington, VA), Table 25, Author's analysis of Tables 34, 35, 38, & 39.

Fig. 1 depicts the share of women who earned doctorates in science and engineering between 1966 and 2006. While there are differences in the proportion of women in the different STEM areas, it is evident that in all STEM areas, there is a constant and dramatic increase in Ph.D. graduates over the years. None, however, has reached the level of 50%.

One of the most traditional male fields is electrical engineering. Indeed, Table 11 in the United States Department of Labor report, *Women in the labor force: A databook*, suggests that in 2008, fewer than 10% of electrical engineering employees were women.[6] This observation is supported by looking at the data for percentages of women in electrical and electronic engineering, as per membership in the IEEE – the Institute of Electrical and Electronics Engineers, which in 2009 had

Data for the years 2002 to 2006 for 22 countries yield a scissors diagram that shows a minor increase in the proportion of women. The scissor phenomenon appears also when we isolate science and technology professions (see Fig. 2).

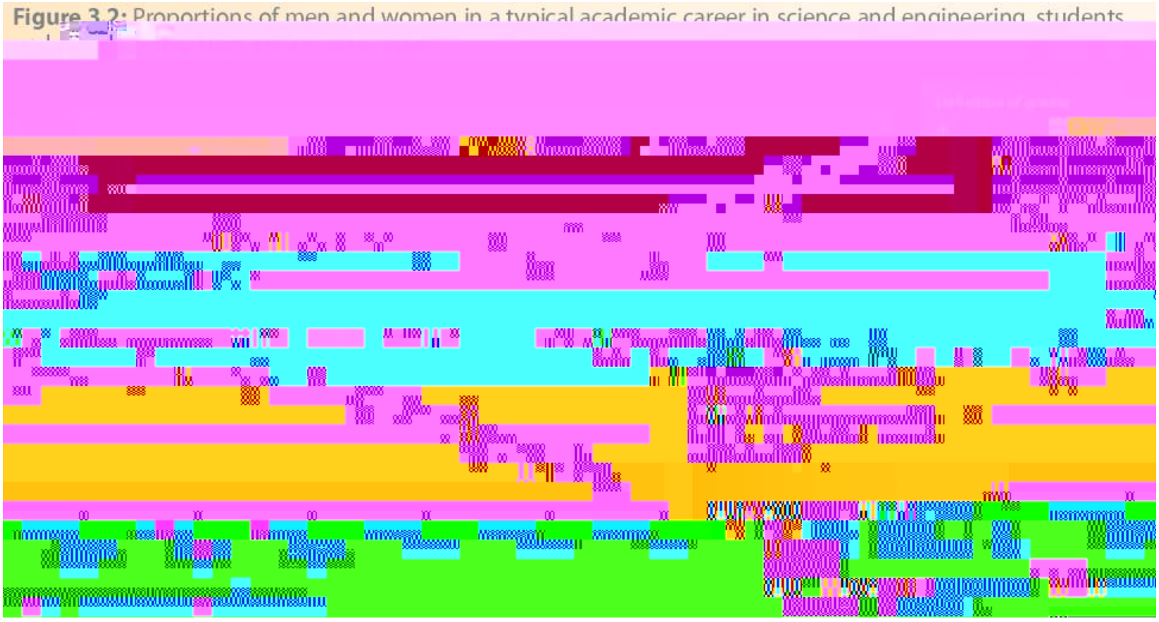

Figure 2: The scissors diagram for women in STEM, and the negligible improvement over the years.[9]

It is interesting to examine the existence of a scissors diagram in a field in which women's participation is less than 10% and is of great importance to modern industry – electrical and electronics engineering. To consider this, I look again at the IEEE data on 2009 membership, which shows that while about 7% of the voting members are women, only 5% of the *senior members* are women, and only about 3% of the *fellows* are women (187). This clearly indicates that the glass ceiling exists, independent of field and of whether the field is traditionally male or female.

II. A closer look at the R&D state of ISRAEL

In 2000, the EU set a goal of spending 3% of the gross domestic product (GDP) on civilian research and development (R&D) by 2010. Israel is known as a high-tech state, a leader in enterprise and in innovation. When we examine the expenditure on civilian R&D as a percentage of the GDP of many countries (in 2007), we see that it typically varies between 1.2% (Italy, New Zealand, etc.) and 3.6% (Sweden) with an OECD average of 1.9%.[10] With these figures in mind, it is amazing to see that Israel spent 4.8% of its GDP on civilian R&D in 2007.

Considering these data, it is compelling to consider the extent to which women are represented professionally and academically in Israel in a range of disciplines.[11] The lowest percentage of women in a given field in Israeli universities in 2008 was 28.3% in engineering and architecture (grouped together in the data available). In 2007-8, among those earning a Ph.D. in this group, 23.7% were women. In fields designated as legal,

The presence of more women in STEM, particularly in core technical topics such as electrical and electronic engineering can also lead to greater innovation. For example, the idea of using existing measurements taken from wireless communication networks for environmental monitoring,[15] initiated by a female electrical engineer (myself), has opened a new field of research and applications. Thinking differently, as women do, introduces diversity – and enrichment.

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