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Preliminary Co-Word Analysis of the 2006 Congress of the Association Française de Sociologie

Karl M. van Meter and Mathilde de Saint Léger

Introduction

- 1 We have previously published in the *BMS* (de Saint Léger and van Meter, 2005) an initial analysis of all the abstracts of presentations given at the first congress in 2004 of the Association Française de Sociologie (AFS). That analysis was done with a method based on a hierarchically-ascending classification of the co-occurrence of keywords (“co-word analysis”) called Calliope and developed by one of the authors (de Saint Léger, 1997). That article in the number 85 issue of the *BMS* was accompanied by analyses of the same corpus of data by three other methods: Trideux factorial correspondence analysis; Alceste hierarchically-descending classification analysis (Boudesseul, 2005); Prospéro text-based analysis of controversies (Trabal, 2005). These four analyses were developed further in a recently-published work, *Analyses textuelles en sociologie - Logiciels, méthodes, usages* (Demazière *et al.*, 2006).
- 2 In the preceding issue of the *BMS*, Gérard Boudesseul (2006) presented an initial analysis of the abstracts of the 2006 AFS congress in Bordeaux, again using the Trideux factorial correspondance method and the Alceste hierarchically-descending classification method. In this research note, we report our initial resultats based on the analysis of the same corpus with Calliope.

Work and Women in the 2004 & 2006 AFS Corpuses

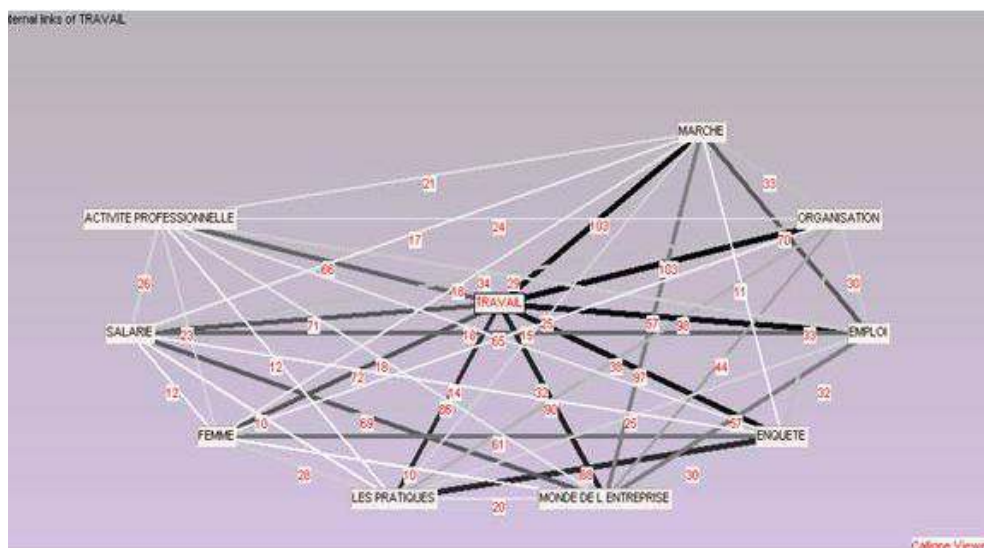
- 3 In our 2005 and 2006 analyses of the 2004 AFS abstracts, we noted the intertwined relationship between the keywords *Travail* (Work) and *Femme* (Women). *Women* was clearly

- 6 This diagram can be compared with that of all 2004 AFS abstracts (Demazière *et al.*, 2006: 128) where *Women* is in the top right corner of quadrant one. Here, for 2006, it's *Work* that is in that same position. But besides that substitution, the two Strategic Diagrams look very much alike with many of the same clusters in more-or-less the same position. Indeed, the clusters in both diagrams are drawn out between the dominant cluster (*Women* or *Work*) in the top right (with a few other clusters distributed throughout quadrant one) and a concentration of clusters at the bottom and to the left (distributed throughout quadrant three and part of quadrant four). Several of the clusters closest to the dominant cluster are the same in both diagrams: *Etablissement scolaire / Enseignement* (schools / teaching), *Medecine*, *Immigration*, *Domaine juridique* (legal domain).
- 7 This similarity in structure reflects the similarity in keywords since there is very little difference between the established thesarus of keywords resulting from the analysis of the 2004 AFS abstracts and the new set of keywords found in the 1,172 abstracts of the 2006 AFS congress. The variations are in the slight differences in terminology (*Enseignement* [teaching] / *Enseignant* [teacher]) and a bit more in frequencies of occurrence and co-occurrence of keywords. This also helps to explain how we can still have rather similar results in both cases when *Women* and *Work* have replaced each other. Indeed, the slight variation in keyword frequencies results in more clusters closer to the dominant 2006 cluster (*Work*) and in or near the first quadrant than in the 2004 Strategic Diagram. Also, this slight variation results in *Women* becoming part of the cluster *Work* (in the 2006 case) instead of the inverse (as in the 2004 case).

Inside the *Work* & *Women* Clusters

- 8 Let us look more closely at the 2004 and 2006 clusters formed around *Women* and *Work*. Figure 2 below represents the 2006 *Work* cluster which is the dominant structuring cluster of the 2006 Strategic Diagram. The 2004 *Work* cluster can be found on page 132.

Figure 2: The *Work* cluster from the 2006 AFS abstracts



- 9 Both clusters contained ten keywords other than *Work*. Out of those ten keywords, seven of them were the same in both cases: *Market*, *Organization*, *Employment*, *Survey*, *Business*

Milieu, *Sociology*, and *Practices* (English translations). Moreover, these seven keywords accounted for the vast majority of internal ties in both the 2004 and the 2006 cluster. In short, their structure seems to be solid and stable. But this result can only be considered relative to the fact that the exact framework of the 2004 *Work* cluster was actually constructed in the sub-set of all 2004 abstracts containing the keyword *Women* (592 out of a total of 1035, and for which the keyword *Women* was removed to make the analysis possible). But as we mentioned previously, this vast sub-set was a rather clear reproduction of the general corpus of all 2004 AFS abstracts.

- 10 A quick look at the 2004 and the 2006 *Women* clusters confirms this continuity of structure. Figure 3 below represents the 2004 *Women* cluster and Figure 4, the 2006 *Women* cluster.

Figure 3: The *Women* cluster for the 2004 AFS abstracts

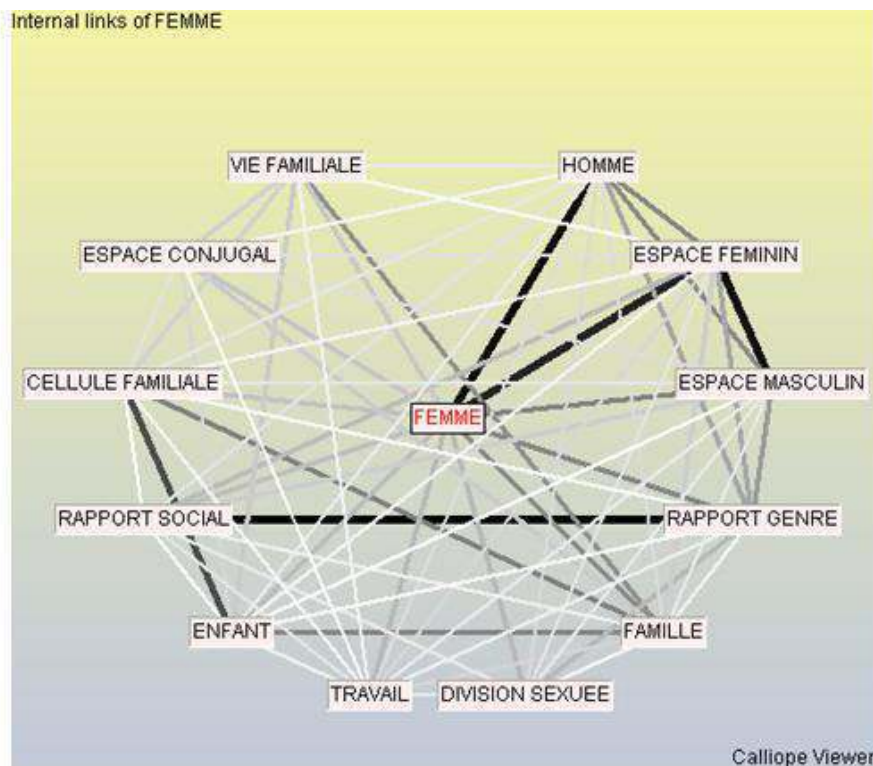
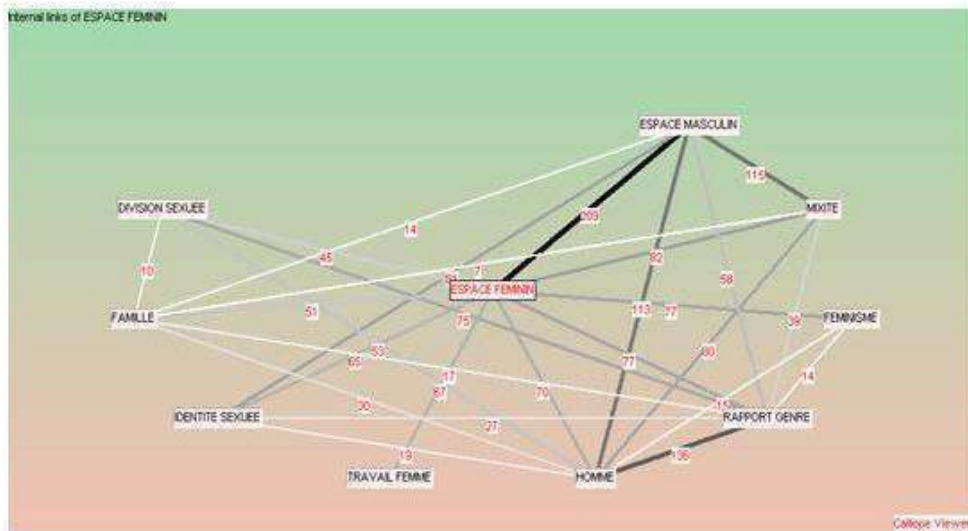


Figure 4: The *Women* cluster for the 2006 AFS abstracts

- 11 As with the *Work* clusters, there is a marked similarity in the two cases, not only concerning the keywords present, but also the distribution or strength of internal ties. The 2004 *Women* cluster contains 13 keywords, including *Work*. The 2006 *Woman* cluster contains 10 keywords and does not contain *Work* since this cluster was constructed in the sub-set of all 2006 AFS abstracts containing the key work *Work* (like the 2004 *Work* cluster above was constructed in the sub-set of abstracts containing the key work *Women* and for which the keyword *Women* was removed to make the analysis possible). Most (12) keywords of the 2004 *Women* cluster are contained in the 2006 *Women* cluster. Moreover, the strongest internal ties in both cases are between the same keywords. Thus we have almost the same situation as with the 2004 and 2006 *Work* clusters.

External Ties of *Women* & *Work*

- 12 The term *Women* is included in the *Work* cluster, but we can look at its external ties which are co-occurrences of key word ties with terms included in other clusters. These external ties are interpreted as “see also” associations of the term *Women*.

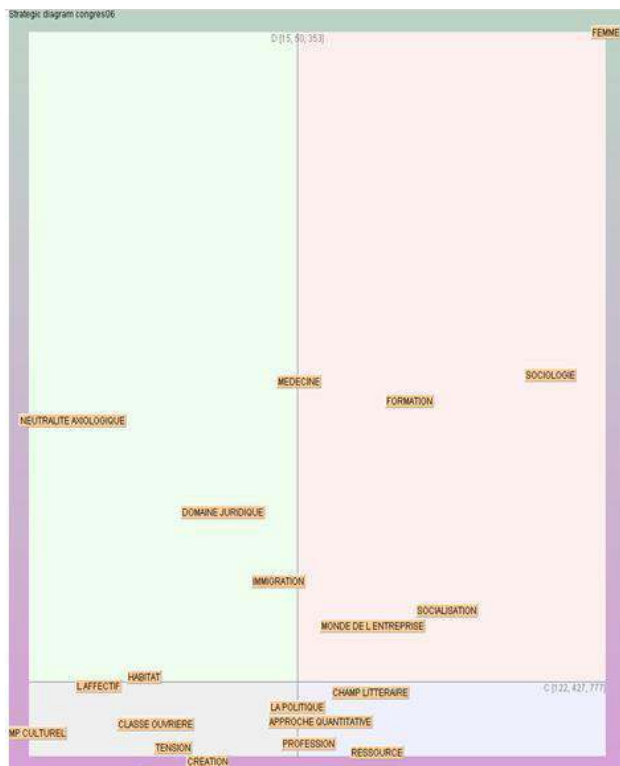
Table 1: External ties of *Women* in the 2006 AFS corpus

- 13 The percentage of ties for each cluster indicates the percentage of all external ties for each cluster with the key word *Women*. One can note that in 2006 *Women's* external ties were with the *Espace feminin* (*Women's milieu*). In that cluster, we find the same terms as in the 2004 *Women* cluster, with one exception; the term *Feminisme* which according to Calliope is an “emerging term” in 2006 (see “Key-Word Strength of Attraction é Emerging Terms” below).
- 14 In 2004, it was *Work* that was included in the cluster *Women* and *Work's* external ties were with the *Emploi* (employment), *Monde de l'entreprise* (Business milieu) and *Activité professionnelle* (Professional activity) clusters. Here again, in Table 2, the percentage for each cluster indicate percentage of all external ties for each cluster with the keyword *Women*.

Table 2: External ties of *Work* in the 2006 AFS corpus

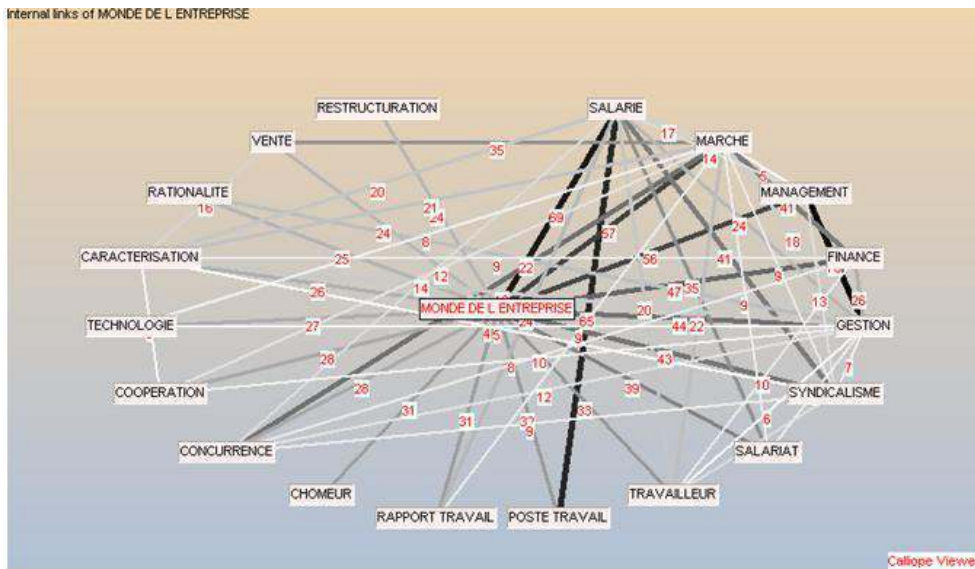
The 2006 *Work* Sub-Set Of Abstracts

- 15 If we consider the 2006 sub-set of 943 abstracts (out of the total of 1,172) associated with the cluster *Work* and re-analyze that sub-set, we obtain the following Strategic Diagram (Figure 5) where – as in 2004 – the *Women* cluster dominants in the top right-hand corner of the fist quadrant.

Figure 5: Strategic Diagram of 2006 abstracts associated with the *Work* cluster

- 16 The similarity between Figure 5 and the general 2004 Strategic Diagram are striking: *Women* in the same position and a very similar distribution of the other clusters, many of which are grouped together in the lower left-hand of the diagram. This similarity reflects that of the general 2006 Strategic Diagram compared with the Strategic Diagram of the 2004 sub-set of abstracts associated with the keyword *Women* (Demazière *et al.*, 2006: 132). For these two latter diagrams with the cluster *Work* in the upper right-hand corner, there is again the group of clusters in the lower left-hand corner, but there are also other clusters closer to *Work* in the first quadrant.
- 17 Returning to the 2006 sub-set of abstracts associated with the *Work* cluster and diagramed in Figure 5, since the keyword *Work* has been removed for the purposes of the analysis, the keyword *Monde de l'entreprise* (Business milieu) seems to have “filled the gap” left by the absence of *Work*. See Figure 6 below.

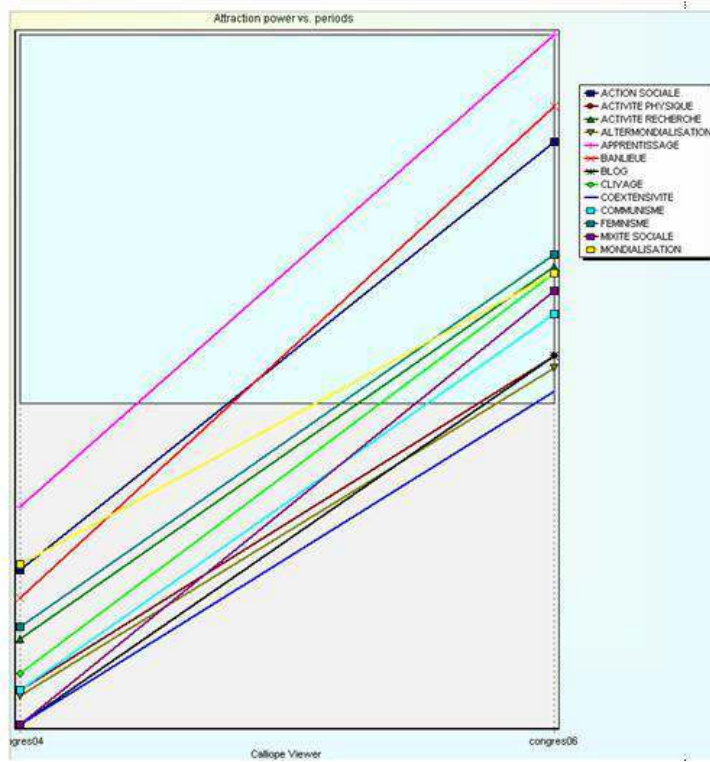
Figure 6: The cluster *Monde de l'entreprise* (Business milieu) within the *Work* sub-set of 2006 abstracts



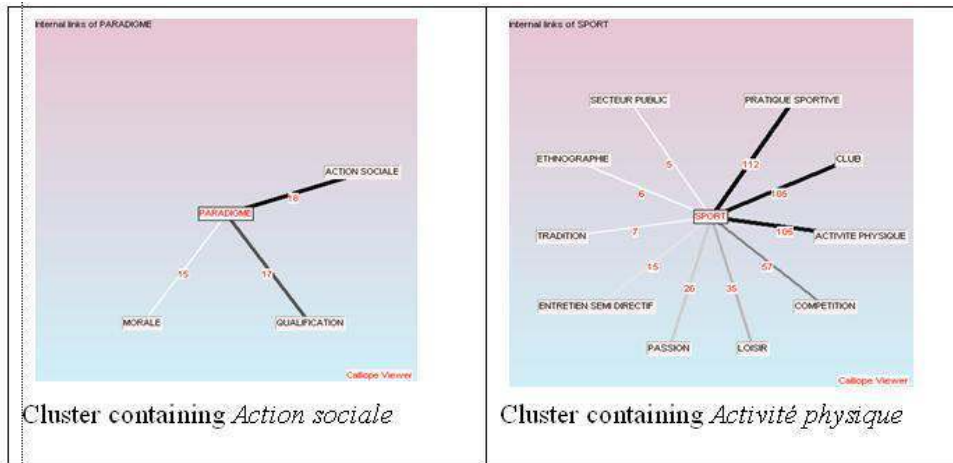
Key-Word Strength of Attraction & Emerging Keywords

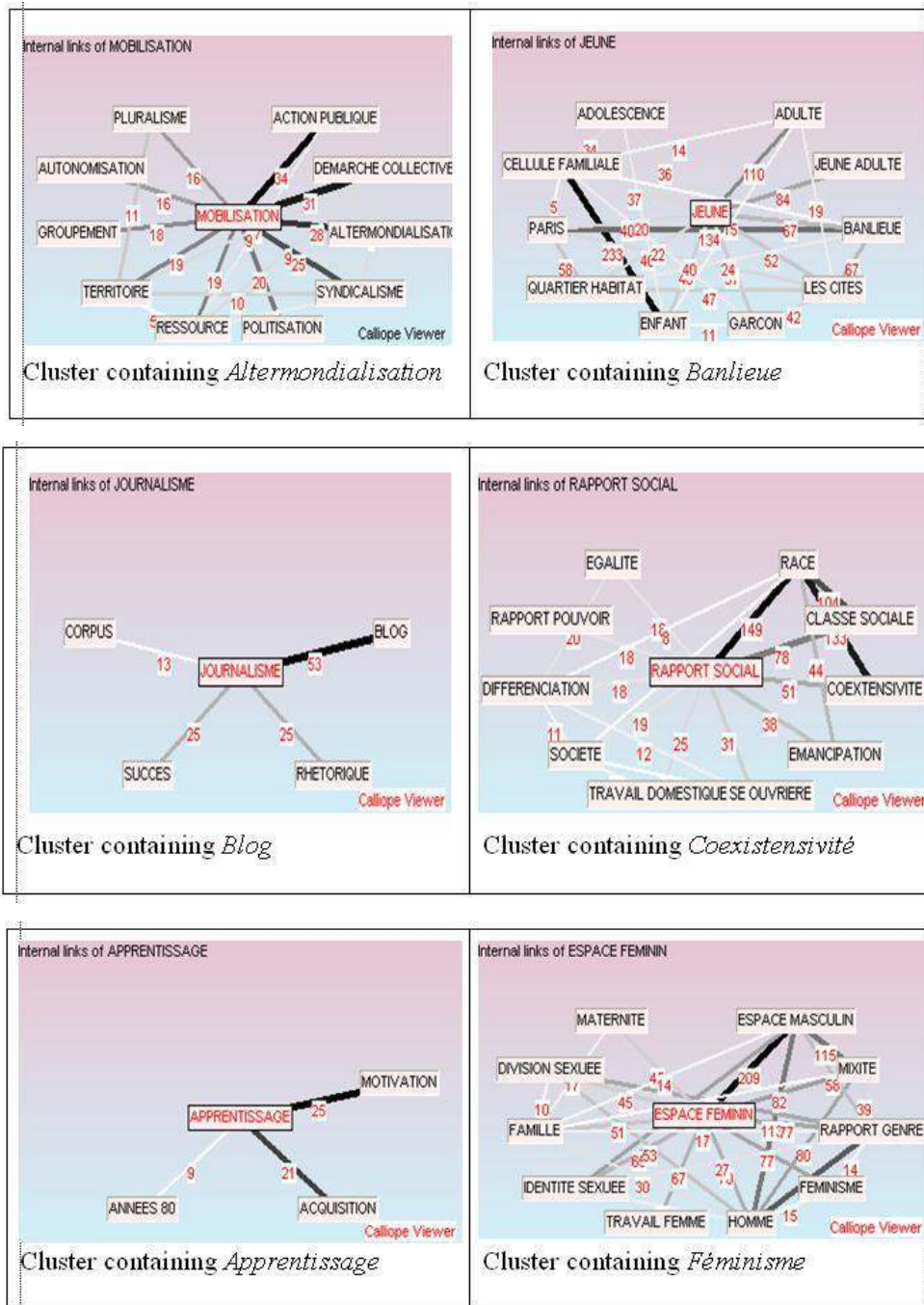
- 18 By comparing the strength of a keyword's internal ties (within a cluster) and external ties (outside its cluster), in relation to the totality of ties in the corpus, Calliope can calculate the "strength of attraction" for each keyword in forming a cluster. With two corpuses such as the 2004 and 2006 AFS abstracts, Calliope can calculate a "global thematic tie" (see de Saint Leger, 1997) and classify keywords in four categories: stable, emerging, fluctuating and declining.
- 19 With the AFS 2004 and 2006 abstracts, the global thematic tie is 0.924 for a possible maximum of 1.0 (when two corpuses are identical). This means the 2004 and 2006 thematic keywords are very similar, and the 461 keyword entering into the analysis can be classified with 222 stable terms, 118 emerging terms and 121 declining terms. Out of the 118 emerging terms, the 13 most important (on the basis of the global thematic tie) are *Action sociale*, *Activité physique* (Physical activity), *Activité de recherche* (Research activity), *Altermondialisation* (Alterglobalization), *Apprentissage* (Training), *Banlieue* (Suburbs), *Blog*, *Clivage* (Social gaps), *Coexistensivité* (Social coexistence), *Communisme*, *Féminisme*, *Mixité social* (Gender mixture) and *Mondialisation* (Globalization). Figure 7 below shows the increase in the "strength of attraction" of these 13 emerging keywords.

Figure 7: Increase in the “strength of attraction” of 13 emerging keywords



20 Eight of the 13 emerging keywords figure in the following eight clusters.





21 One should note that most of these clusters are “stars” formations; that is clusters with ties only to the central keyword and few or no ties between other keywords in the cluster. Such “stars” are rather unstable structures since the disappearance of the central keyword means there is no tie structure at all. With these clusters, it would be more appropriate to speak of “bubbling activity” instead of emerging stable structures.

Brief Conclusion

22 In conclusion, we can note the stable but complex and intertwined role of *Work* and *Women* in structuring both the 2004 and the 2006 corpuses. The two corpuses are very

similar in relation to their set of keywords and also in relation to the ties between these keywords, although there are is movement as we noted with certain emerging terms. These results are rather similar to those found by Gérard Boudesseul (2006) in his preliminary analysis of the 2006 AFS abstracts.

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ABSTRACTS

Following the publication in the *BMS*, and since then in a book, of our analysis of all the abstracts of the first congress of the AFS in 2004 with the Calliope method, we carry out a first analysis of the abstracts of all the presentations made at the second congress of the FSA in Bordeaux in September 2006. The results of the analyses of the two corpuses are compared, revealing a stable structure for both congresses and a complex interplay between the key words *Women* and *Work*.

Analyse préliminaire par mots associés du congrès 2006 de l'Association française de sociologie: Suite à la publication dans le *BMS*, et depuis dans un livre, de notre analyse de tous les résumés du premier congrès de AFS en 2004 avec la méthode Calliope, nous procédons à une première analyse des résumés de toutes les présentations faites au second congrès de l'AFS à Bordeaux en septembre 2006. Les résultats d'analyse des deux corpus sont comparés, montrant une stabilité de structure entre les congrès et un jeu complexe entre les mots clés *Femme* et *Travail*.

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Mots-clés: Structure de la sociologie, Méthode des mots associés, Calliope, Association française de sociologie

Keywords: Structure of Sociology, Co-Word Analysis, French Sociological Association

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