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The Broad System of Ordering (BSO) as a Basis for an Integrated Social Sciences Thesaurus?*

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Investigation into the possibility to use the relevant parts of the Broad System of Ordering (BSO) to construct on its basis an integrated thesaurus of the social sciences (SS) comprising all existing thesauri and classification systems in this area. The SS coverage of the BSO was found to be relatively small compared with the corresponding classes of the Dewey Decimal Classification, the Bliss Classification and the Unesco Thesaurus. The BSO falls short also in its structural features as exemplified by its method of class formation and concept arrangement with its reversing rule for citation order. The BSO not having been designed for the purpose of integrating other systems, it cannot be blamed for its non-suitability for such an application purpose. (Author)

1. Introduction

According to the objectives laid down by Unesco in a contract with the FID (1973) a broad subject-ordering scheme was to be developed which could serve as a switching mechanism between information systems and services using diverse indexing/retrieval languages. It was now suggested to use the resulting BSO scheme of 1978, especially its relevant social science parts, as a basis for the establishment and progressive development of a comprehensive classification system of the social sciences integrating preferably all of the existing special thesauri and classification systems in this area.

In order to determine whether the BSO structure and content can be used as an integrative classification system for the Social Sciences (SS) – which is the object of this investigation – we must first analyze the overall structure of the BSO, discover how it treats the SS within this structure, and compare this treatment with the SS structure used by other universal systems. Furthermore we need to evaluate the results of such a comparison and also analyse the subject fields components of the SS identified in the BSO as they relate to other subject fields in the same system that deal with the aspects of SS concepts. Only after we become well aquainted with the SS coverage in the BSO can we then also define the basic objects of the SS and draw conclusions from our findings regarding the adequacy of the BSO for use as a framework for constructing an integrated social science classification system.

Fig. 1: The Subject Areas of the BSO

100 Knowledge generally
200 Science and Technology (together)
460 Education
470 Human Needs
500 Humanities, Cultural and Social Sciences
600 Technology
910 Language, Linguistics & Literature
940 Arts
970 Religion and Atheism

Most of the SS, in this context, are included in the area from 530–588, with the following main headings (as given in the "First outline"):

Fig. 2: The SS Subject Groups of the BSO

530/588 Social Sciences
553 Cultural anthropology
535 Sociology
537 Demography
540 Political Science and Politics
550 Public Administration
560 Law
570 Social Welfare
580 Economics
588 Management of Enterprises

In the "Second Outline", giving the "Main Subject Fields" we find the following list:

Fig. 3: Main SS subject fields of the BSO

530/588	SOCIAL SCIENCES
533	CULTURAL ANTHROPOLOGY
535	SOCIOLOGY
537	DEMOGRAPHY (=POPULATION STUDY)
540	POLITICAL SCIENCE & POLITICS
542	POLITICAL INSTITUTIONS & ORGANIZATIONS
543	POLITICAL ORGANIZATIONAL SYSTEMS
544	POLITICAL HISTORY
545	POLITICS OF PARTICULAR GROUPINGS OF STATES
546	POLITICS OF PARTICULAR COUNTRIES
550	PUBLIC ADMINISTRATION (=GOVERNMENT)
554	CENTRAL ADMINISTRATION & GOVERNMENT
556	DEVOLVED (=DECENTRALIZED) ADMINISTRATION
560	LAW. JURIDICAL SCIENCES
562	CIVIL LAW
563	PUBLIC LAW, CONSTITUTIONAL & CRIMINAL
565	INTERNATIONAL LAW
567	SYSTEMS OF LAW (BY ORIGIN)
568	LAW OF PARTICULAR COUNTRIES
570/575	SOCIAL WELFARE, RELIEF & SERVICES
580	ECONOMICS
581,80	MICROECONOMICS (GENERALLY)
582	MACROECONOMICS (=REGIONAL, NATIONAL & INTERNATIONAL)
584	ECONOMIC ORGANIZATION
586	SECTORIAL ECONOMICS
588	MANAGEMENT OF ENTERPRISES

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The full scheme for 530–588 comprises 10 typewritten single-spaced pages in the BSO publication (1). The notation chosen can distinguish between three (and more) levels of subdivision. A field like "sociometry", for example, was given the notation 530,18,50 the components of which stand for

530 Social sciences (general studies and methods)
, 18 Social science methodology
, 50 Sociometry

The notation allows combinations with other subject fields, and also with the elements of four general facets for the concepts of place, time, general phenomena and entities, and types of information sources, according to rules given in the introduction to the scheme.

A distinction is made between external and internal combinations. External combinations occur when one field is related to another; e.g.:

570 Social welfare, and
540 Political science and politics

combine to form 570–540, meaning "social welfare policy". Internal combinations involve a combination of elements within one subject group or area. (An example will be given later.)

The introduction to the scheme does not name all the levels of abstraction: only ' areas", "main subject fields" and "subject fields" are distinguished. In order to clarify the BSO hierarchy, therefore, I will use the following terms in the rest of this paper:

Subject areas = the 9 major subdivisions of the first outline
Subject-groups = the 51 underlined 'main' subject fields of the second outline
Subject fields = the 202 remaining fields in the second outline
Subfields = the subdivisions of the subject fields.

There may also be 'subsubfields', when subfields are further broken down as the example of 'sociometry' given above shows. However, such classes are also sometimes subdivided by entitiesor processes.

3. Comparison with other universal classification systems

To compare the contents of SS classes in the BSO with that of other systems we selected the Dewey Decimal Classification, ed. 19 (DDC), the Bliss Bibliographic Classification, ed. 2 (BBC) and the Unesco Thesaurus (UNT)[1] (2–4). Fig. 4 gives the number of subject groups and subject fields in these three systems, compared with the BSO:

Fig. 4: Number of subject groups and subject fields in 4 universal systems

Social Sciences	BSO	DDC 19	BBC2	UNT
Subject groups	6	10	7	9
Subject fields	22	83	82	113

Why do the other systems contain so many more subject fields under their main classes in the SS?

Fig. 5 lists the subject groups in each system and from this data we can derive an answer:

Fig. 5: The SS subject groups in 4 universal classification systems

BSO	DDC	BBC	UNT
0 Social Sciences	Social Sciences	Social Sciences	Social Sciences
1 Political Science	Statistics	Sociology	Political Science
2 Public administr.	Political Science	History	Law
3 Law	Economics	Religion	Economics. Finan.
4 Social welfare	Law	Social welfare	Behav. Sci. Psych.
5 Economics	Public administr.	Political Science	Administr. Science
6	Social problems	Law	Labour & employ.
7	Education	Economics	Sociology
8	Commerce (Trade)		Human environm.
9	Customs, etiq., f.		

Each of the four systems has a main class called 'social sciences'. However, the contents of this class differs in each system. Interestingly enough, the four systems also differ in what they include within the scope of the SS: the subject groups not included in the BSO set have been underlined. Sociology given as a subject group in the BBC and UNT, is treated as a subject field in the BSO and DDC. The scope of the other systems, being much wider than the BSO, then also counts for the larger number of subject fields.

We shall now correlate the BSO subject fields with their counterparts in the other systems. For this see Fig. 6.

Fig. 6 demonstrates that a number of BSO subject fields have no counterparts in the other systems which is rather astonishing, especially because the Unesco Thesaurus claims to have incorporated the entire BSO[2] and there was also close cooperation between the BSO Panel and the authors of the BBC revision[3].

A number of BSO subject fields have their counterparts also as subfields in the other systems, as e.g.

537 Demography in BBC
544 Political history in DDC
581 and 582 Microeconomics and Macroeconomics in UNT
584 Economic organization in DDC
588 Management of enterprises in DDC

If we compare the SS contents of the other systems with the BSO we would also find many empty fields within the BSO, especially for the very old and "experienced" DDC, with its 300 printed pages for the SS only. Even major subject groups of the other systems are omitted from the BSO – see Fig. 6.

4. Common Features and Differences

In Fig. 6 it became clear that some subject groups have similar subject fields as e.g. in 550 Public administration: the divisions name fields which exist in each of the four systems. Is this because there is no other way of subdividing this subject group or is it because the system designers copied from each other? It is interesting to see, however, that the one old system in use, the DDC, adds many more classes here, namely

353 United States federal and state governments
354 Public international organizations and specific central governments other than those of United States
355 Military art and science
356–357 Land forces and warfare
358 Armored and technical land forces and warfare, air and space forces and warfare
359 Sea (Naval) forces and warfare

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Fig. 6: Correlation of BSO social sciences fields with equivalents in other systems

BSO	DDC	BBC	UNT
530/588 Social Sciences	*300 Social Sciences*	*K Social Sciences*	*K Social Sciences*
533 Cultural Anthropology	306 Culture & institutions	KC Kultural, social anthrop.	T08/13 Cultural & soc. anthr.
535 Sociology	301/7 Sociology	KA Sociology	R Sociology
537 Demography	304.6 Population (Demogr.)	–	R 08/20 Demography
540 Political sci., polit.	320 Political science	R Political science	L Political science
542 Political inst. & org.	306.2 Political institutions	–	L36/41 Political institutions
543 Pol. org. patterns &	321 Kinds of governments	RJ Political systems	L22/31 Political systems
544 Political history	320.9 Hist. of pol. inst.	RJS Hist. by subj., political	L03 Political history
545 Pol. of part. groupings	–	–	–
546 Pol. of part. states &	–	RK Pol. by place	–
550 Public administration	350–359 Public administr.	RO Public administration	L42/49 Public administration
554 Central admin. & gov.	351 Central governments	RR " " , Central	L44 Central governments
556 Devolved admin.	352 Local governments	RS " , Regional & Local	L46 Decentralized "
560 Law. Juridical sciences	340 Law	S Law	M Law
562 Civil Law	346 Private Law	SBF Private & public law	M55/58 Civil Law
563 Public Law, Const. etc.	343 Public L., Const., Crim.	SBF Private & publ. Law	M50/54 Public Law
565 International Law	341 International Law	SDD International Law	M70/89 International Law
567 Systems of law	–	SE Common Law systems	M40/49 Legal systems
568 Law of partic. countr.	349 Law of indiv. states &	–	–
570/575 Social welfare	361 Soc. probl. & soc. welf.	Q Social welfare	R85/99 Social welfare
580 Economics	330 Economics	T Economics	N Economics
581,80 Microeconomics	338.5 Gen. product. econ.	–	N03.50 Microeconomics
582 Macroeconomics	339 Macroecon. & rel. t.	–	N03.10 Macroeconomics
584 Economic organization	330.1 Econ., syst. & theor.	–	–
586 Sectorial economics	–	TT Economic syst., sect.	–
588 Management of enterpr.	658.2 Management of plants	TX Management of enterpr.	Q21 Business managem.

Fig. 7: The contents of the subject groups "political science" and "economics" in four universal systems

BSO	DDC	BBC	UNT
540 *Political science & politics*	320 *Political science* (Politics and government)	R *Political science*	L *Political Science*
542 Political institutions & organizations	321 Kinds of governments & states	RA Political theory, rights & duties	L06/19 Political Philosophy
543 Political organization, patterns and systems	322 Relation of state to organized social groups	RB Government, constitution	L20/59 State
544 Political history	323 Relation of state to its residents	RD Branches of government, Legislature, parties	L60/79 Internal Politics
545 Politics of particular groupings of states	324 The political process	RF Political practice: violence, censorship	L80/99 International Polit.
546 Politics of particular states and countries	325 Internal migration	RH Internal politics	
	326 Slavery and emancipat.	RI External politics	
	327 Internal relations	RJ Political systems Historical: capitalist, socialist	
	328 Legislation	RK – by place, indiv. states	
		RL External politics peace and war	
580 *Economics*	330 *Economics*	T *Economics*	N *Economics*
581,80 Microeconomics	331 Labor economics	TA Theory: viewpoints	N02 Economic History
582 Macroeconomics	332 Financial economics	TB Economic history	N04 Economics Research
584 Economic Organizat.	333 Land economics	TC Consumption	N06/10 Economic theory
586 Sectorial Economics	334 Cooperatives	TD Product. & distrib.	N11 Econ. planning & admin.
588 Management of Enterprises (Business & Industry)	335 Socialism & rel. syst.	TDF Factors: land, cap.	N12 Econ. resources
	336 Public finance	TJ Prod. syst. mass pr.	N13/20 Econ. & soc. develpm.
	337 Internat. economics	TK Distrib. of wealth	N21/26 Econ. systems
	338 Production	TL Costs & prices	N28/30 Econ. conditions
	339 Macroeconomics & rel. topics	TM Exchange, trade	N32 Econ. sociology
		TN Finance, banking, insurance	N34 Econ. psychology
		TT Econ. syst., sectors	N35/49 Industrial econ.
		TU Regional, national	N39/49 Industries
		TV Internatl. economics	N50/59 Agricul. economics
		TW Hist. systems	N60/64 Land economics
		TX Management of enterp.	N65/75 Trade
		TY Particular industries	N76/99 Finance

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Also, regarding 560 Law, the different schedules seem to be in agreement, although, here again, the DDC includes classes which have no counterpart in the other systems, as e.g.

344 Social Law
347 Civil procedure and courts
348 Laws (Statutes), regulations, cases

Political Science and Economies are given as subject groups in all four systems, but their subdivisions differ markedly. In Fig. 7 a comparison of these two subject groups in all four systems is presented.

The BSO (together with the UNT) divides 'political science' into fewer subject fields than the BBC and UNT. However the subjects recognized in the DDC and BBC may well be included in the BSO, but only on the level of subfields. A real comparison of these fields requires the analysis of all the elements of the four systems, a level of detail not possible here.

The same holds for the situation in economics. Here again the BSO does not use as many classes as the other systems to organize its material. A closer look at the BSO shows however that many of the subjects mentioned on a higher level in the other systems have been listed in the BSO at the level of subfields.

It was not the intention of the BSO authors to create a *powerful structure* as a guide for the users of this system. They supported rather

> "an arbitrarily ordered coding system (which) will be generally more economical and less troublesome" (1, p. III)

because "the preparation of a structured ordering system costs time and effort" and it also "implies philosophical or value judgements which are unlikely to be universally acceptable" (1, p. III). They were also afraid that such structures would have to be changed frequently, taking into account the fact that relationships between fields are constantly changing. This is especially true if a system is based on disciplines – as is the BSO – rather than on categories. It is indeed regrettable that the chance was missed to construct a universal system based on general categories and an integrative level theory that would provide ample help for the non-subjective ordering of decisions. The fact that the BSO evolved more or less into an arbitrarily ordered coding system deprives us from the possibility to find here the structures needed for an integrated classification of the social sciences.

5. "Non-BSO Social Sciences"

Fig. 5 showed us some of the divergencies that exist in the listing of what is to be covered by the social sciences in the different classification systems. The DDC, for example, includes in addition to the BSO classes

Statistics
Education
Commerce (Trade) and
Customs, etiquette, folklore

The BBC adds to these

History and
Religion

and the UNT the

Behavioural Sciences. Psychology
Labour and employment and
Human environment.

Where are these nine omitted subject groups in the BSO?

Statistics is handled in the BSO, as a science under 125 together with probability, following mathematics under 120. There is 'economic statistics' under 580,18 and 'population statistics' under 537,14, this latter with the meaning that Dewey had in mind when he put it into the first place under the SS. It is no doubt correct to let statistics follow mathematics, the DDC position being antiquated today; however, the BSO coverage of statistics is incomplete since it leaves out the many possible fields of application of statistics in all the sciences and many fields of human action and production.

Education is considered in the BSO as a subject area by itself at the same level as SS, preceded by the area of Science and Technology and followed by an area called Human Needs.

Commerce (Trade) may be found in BSO as 'Trade' within 580 Economics, namely under 580,60. In the DDC 'Commerce' includes 383 'Postal communication', 384 'Telecommunication', 385 'Railroad transportation', 386 'Inland waterway and ferry transportation', 387 'Water, air, space transportation', 388 'Ground transportation and 389 'Meteorology and standardization'. These fields are treated quite differently in the BSO, namely

(1) within the area 'Knowledge generally'
150 Communication sciences and techniques and
188 Meteorology
(2) within the area 'Technology'
655 Telecommunication engineering and
740 Transport Technology.

If one regards Economics as belonging to the SS, one should not push Transportation solely into the Technology area, since it also belongs to Economics. The UNT included it as a SS subject group under the heading "Human environment" (inter alia).

Customs, Etiquette, Folklore is placed in the BSO under 'Cultural Anthropology', namely 533,60 'Folklore, customs & traditions'. This is one of the cases, where a BSO subfield finds its counterpart in the DDC at the subject group level.

The BBC class *History* is found in the BSO as the first category in the subject area 'Humanities, Cultural and Social Sciences' (510 History and related sciences) and the BBC class *Religion* is a separate subject area by itself in the BSO, namely the last one, together with its opposite: Atheism (970). The socalled *Behavioural Sciences* of the UNT cover only *Psychology* with 27 subject fields. In the BSO, however, 'Psychology' was placed by itself as a field in the First Outline under 'Behavioural Science', a group within the area of Science and Technology. In the Second Outline, however, 'Psychology' is placed together with 'Education' on one and the same level, although 'Education' played the role of a subject area in the First Outline. The UNT subject group *Labour and Employment* can be found as a subfield in the BSO under 'Economics' (580,80), which is regarded as one of the SS.

The *Human Environment* subject group of UNT covers the following range of fields:

S *Human Environment*
S05/10 Environmental quality
S12 Human needs
S15/49 Human settlement
S30/49 Housing
S50/69 Transport

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S69 Travel
S70/99 Environmental planning
S84/89 Urban planning
S90/95 Open spaces
S96 Rural planning
S98 Regional planning

This group does not have a direct counterpart in the BSO, although there is a subject field called 395 'Human ecology & environment'. However, this covers only the first subject field in the UNT group, not the rest. 'Human needs' including 'Housing' may be found between 'Education' and 'Sports' in the BSO (470); 'Environmental planning' was placed under 'Construction Technology' in the BSO (725,05), near 'Regional planning' which can be found unter 726,40. 'Transport' was already mentioned above.

Clearly, in all of these "non-BSO social sciences" of other schemes, aspects of society are included. It seems to us that – if it was possible to define the SS according to their intrinsic features as well as according to their specific aspects – a more proper grouping of this whole area would become feasible. An attempt at such a definition will be made in section 9.

6. Class formation and class completeness in the BSO

Although meant to be a broad ordering system, the BSO as a whole lacks essential structural features to assist in unambiguous class location and in definable class formation. This may be partly due to the choice of its notation, which does not strictly insist on putting together what belongs together, but rather just lists whatever comes up, often randomly. A comparison with the UNT, e.g. for 'political systems' demonstrates that characteristics of division can readily be found and used for class formation, even when building a thesaurus. Such characteristics of division may apply explicitly to all the cases to be covered in one class – even if they occur at different positions in a system, and that those cases to which the characteristics of division do not apply can be specifically excluded. The following example of the BSO Subject field 543 and the UNT L22/31 may serve for this comparison:

Fig. 8: BSO Subject Field Division without Characteristics

543 POLITICAL ORGANIZATIONAL PATTERNS & SYSTEMS
,33 Monarchy
,36 Republic
,41 Single-tier state
,42 Two-tier state. Federal state
,45 One-party state
,46 Two-party state. Multi-party state
,52 Feudal systems
,54 Capitalist systems
,57 Socialist systems

Fig. 9: UNT Subject Field Division by Characteristics

L22/31 Political Systems
UF Political regimes
Political structures

(By systems with single head of state)
L23.05 Theocracy
L23.10 Dictatorship
UF Despotism
Autocracy
**Fascism L11.10.20*
**Nazism L11.10.20B*
**Totalitarianism L11.10*
**Tyranny L27*
L23.30 Monarchy
L23.40 Empire
L23.60 Republic
L23.70 Presidential systems

(By system having group rule)
L24 Oligarchy
**Elite R57*
**Aristocracy R56.30.10*
L24.30 Technocracy
UF Meritocracy

(By systems with rule by whole population)
L25 Democracy
L25.10 Representative democracy
L25.10.10 Parliamentary systems
UF Parliamentarianism
**Electoral systems L63*

(By systems with absence of rule)
L26 Anarchy
**Anarchism L11.50*

(By systems with lack of freedom)
L27 Tyranny
**Dictatorship L23.10*
**Oppression L74*
**Slavery R55.10*
**Totalitarianism L11.10*

(By degree of centralization)
L28.10 Unitary state
L28.20 Federation
UF Confederation
Union (state)
**Federalism L13.25*
L28.20.40 Member states
L28.70 World government
UF World state

(By degree of control by government)
L29 Self-government
UF Atuonomous state
L29.50 Newly-independent states
L30 Non-self-governing territories
L30.10 Colonies
**Colonialism L13.50*
L30.10.10 Colonization
L30.10.50 Decolonization
L30.40 Protectorates
L30.60 Trust territories

By not forming classes according to characteristics of division the BSO subject field 543 (see Fig. 8) lists economic systems, such as 'capitalist systems' and 'socialist systems' under 'political systems' – in the UNT one finds them correctly under Economics.

The example above is just one out of many which show – as indicated already in Sect. 4 – that the BSO authors neglected to structure their system so as to permit meaningful expansion. Regarding the lack of class completeness, however, they must be "excused", since it was the policy of the FID Panel for the BSO that the subject fields to be included were those for which empirical evidence (existence of information sources etc.) was available.

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7. Relationships within a BSO subject field

The BSO uses paradigmate and syntagmatic relationships in its hierarchies and for subject composition. Paradigmatic relationships are to be found in all the subsumptions included in the BSO, e.g. by placing subfields under subject fields and the latter under subject groups. The mixture of abstraction (generic) and partition relationships on the same hierarchical level, however, can hardly be disentangled. The introduction to the BSO (p. IV–V) says that within subject fields a facet pattern with the following sequence was used:

Tools or equipment for operations
Operations (i. e. purposive activities by people)
Processes, interactions
Parts, sub-systems of objects of study, or of products
Objects of study, or products, or total systems.

This, by the way, is exactly the opposite sequence from the one used in the Colon Classification (CC) for the arrangement of facets within any main class (5). The CC way of subdividing a field into facets builds up partition systems since one can regard the facets as parts of the subject field in question. In the BSO treatment, by contrast, we see that Parts and Objects of study have been placed on the same level. Consequently, the partition relationship cannot be adequately applied in order to express levels of subsumption, whether from the point of view of the subject field or from that of the "Objects of study".

Faceting as well as sequencing of facets is normally provided for so as to rationalize the various possible combinations between elements of different facets which may occur in representing certain subjects by combining notational elements. The introduction for BSO, however provides the following citation order rule:

> Within a subject field elements of composite subjects are cited in reverse schedule order (1, p. V)

Considering the sequence of facets given above, we realize that according to this rule then the objects of study must be mentioned first and the tools for operations last. By this order we do indeed get the parts to follow the objects in the syntactic sequence. However, we must ask, why does the BSO first establish a reverse order, and then reverse the reverse by its citation rules when using the facets? The example given in BSO relates to

252 Astronomy and Astrophysics, containg
, 28 Satellite astronomy and
, 72 Sun & Solar Phenomena.

The introduction explains that 'Satellite studies of solar phenomena' should be expressed by

252, 72, 28

according to a prescription given at the system position, 252,40. If no prescription is given, then the rule is much more complicated, and I refrain from explaining it here. However, if the facets had been given in the natural order in the first place, so that all the objects range before their processes, then the rules would be less complicated from the very beginning.

In 'political science & politics' we find another somewhat different case. Under

540,47 Human rights and duties

one is instructed to designate the duties of particular social groups by adding the objects from 528,33 to 528, 87 at the end of this composite notation. Accordingly one gets

540,47,68,69 Rights and duties of nomads.

The authors state in the introduction (p. IV) that "it has not been felt necessary or even desirable, to label facets as such through the schedule". For anybody who needs to understand what he is doing when combining the elements of facets, however, such a labelling would immensely facilitate the use of the system. Also updating would become less arbitrary if the various structures and their facets were expressed more explicitly and logically.

8. Relationships between BSO subject areas and groups

If the methods of one field are applied to the objects of another field, it is possible to combine two notations and thus to express easily the combined concepts making up a new field, as e.g.

Medical jurisprudence	420–560
Sociology of education	460–535
Chemistry in glass technology	856–230.

The same holds in the opposite case, as e.g. the use of medicine in law, for this the notation would only have to be given in reverse order, e.g.

Forensic medicine	560–420

The sequence of the two components should always follow a citation rule given in the BSO introduction (p. VI). The combinations of existing subject fields are usually given at the beginning of a subject group, prior to any subdivision. However, in some cases, as e.g.

Political sociology	540, 30
Sociology of law	560, 15

we find no combinations. Such exceptions to the rule are not explained in the BSO and there is no indication at any point in the applicable fields that such deviations from the rule may occur.

Intersparsed in the contents of the BSO fields, one finds references to other relevant places in the system, as e.g.

533,60 Folklore, customs & traditions
(For folk literature, see 915,52; for folk art, see 940,52; for folk music, see 951,52)

This of course is quite helpful. One also finds that certain numbers have been used with a recurring, mnemotechnic sense, as e.g. the '52', as above, relating apparently to the main number 520 'Area studies'. But since this is neither an explicit rule nor always the case, it cannot be as helpful as it might well be.

9. The object of the social sciences?

In order to understand the problem we should ask 'what is the object of a science in general?'. The philosophers of science will tell us that it is the object or the area of objects with which the people acting within a science are concerned. Thus, the object of botany can be determined as the plant or the plants with all the properties plants may have and with all the aspects under which plants may be seen, studied and treated, including their ability to grow, to get sick, to bear fruit and including their demand that someone take care of them. Similarly one can determine the object of the anthropo-sciences as being 'man' and 'men' with their individual and common characteristics, including e.g. their ability to grow physically, mentally and spiritually, to get sick, to have children, to learn, work and enjoy themselves.

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Analogously then, the object of the social sciences can be determined as being 'society', namely that sort of human agglomeration which forms groups of all kinds with a sort of a group-soul, with the feeling of belonging together, with interactions of all sorts and with a life that bears its own fruits, which can also get sick and develop resistances to sicknesses or cures, with institutions that take care that the members of such groupings can live under worthwhile conditions and which is also able to defend its ideals and to reflect its own developments.

Thus the criteria found for the description of the parameter of what *is* society may lead us to comprehend what might be the object of the different social sciences existing. With these criteria then we could state which of the subject groups included in the different schemes mentioned in Sect. 3 truly belong to the SS, which ones could be excluded and which ones have very strong relationships to the SS although their own object of concern is of another kind.

The analysis of the different subject fields will not follow here[4]. Everybody is invited, though, to try such an analysis for himself.

To determine in such a scientific way what should be subsumed under the concept of 'social sciences' will of course always differ from what is covered by this term in different institutions, be they universities, information systems, or even assocations, where the term is used rather to label a certain reality for organizational purposes. Subsequently, the term 'social sciences' quite often summarizes widely differing sets of fields depending in on the differing needs in certain cases. Such arbitrariness, however, cannot become the basis of a classification system; its concepts must be based on logical premises in order that they can be applied to the greatest number of existing cases of reality. Regarding the problem of the concept 'social sciences' and its coverage two possibilities seem to remain: to keep it and to determine its scope by the criteria mentioned above or to abandon it and replace it by another concept and its verbal description with a more adequate comprehension of what should be this major class.

10. Conclusions

Can the BSO serve as the basis for an integrated SS classification system or thesaurus? The answer from all our findings must be a clear 'no', especially from the point of view of lack of systematic structure. An integrated system combining the elements from different thesauri and classification systems demands clear definitions of classes by hierarchical features and preferably by indication of characteristics of division. In fact, it can only be accomplished if the necessary concept analysis of each of the elements involved in the integration has been undertaken first. This holds for the concepts of the subject areas as well as for those of subject groups, subject fields and their various elements. In this regard, the UNT is much superior to the BSO and it seems that this system or its relevant parts could better serve the purposes of system comparison and compatibility for which an integrated SS classification system or thesaurus is sought.

It is rather irrelevant here to distinguish between classification system and thesaurus because the development of classification theory has long incorporated the thesaurus method of recognizing and indicating concept relationships and modern thesaurus theory has adopted classification methods, especially from faceted classification theory, as may be seen in the UNT (and other systems), cf. the example of 'political systems' given in Sect. 6.

The BSO might have been so constructed as to meet the need for a broadly structured system[5], but its own Unesco consultants who guided its development in 1974 sought to create a mixed system combining a faceted structure with an unstructured coding system. It is therefore no wonder that the resulting scheme intended for entirely different purposes cannot provide the basis for an integrated classification system or thesaurus in the social sciences.

Notes:

* Revised version of paper presented at the Consultative Meeting on the Establishment of an Integrated Thesaurus of the Social Sciences, Paris: Unesco, 9–11 June 1980.

2 Regarding the abbreviations see (7).

3 See introduction to (4), p. XI.

4 An extensive study of the objects of subject fields is carried out at present in the author's research project 'Logstruktur'.

5 See the description of the development in the BSO Manual (8).

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