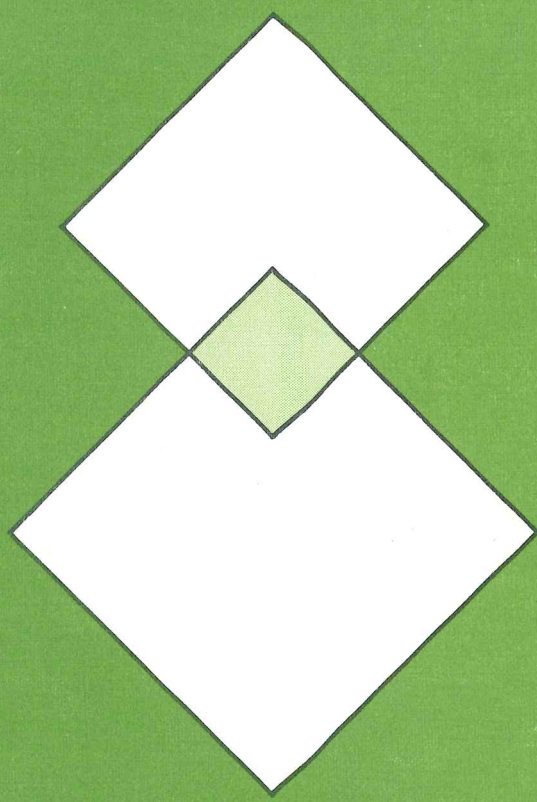


REDUCED UNIVERSAL DECIMAL CLASSIFICATION RUDC

A UDC SELECTION FOR THE BUILDING SECTOR

БҮГДӨЙ



RUDC

Reduced Universal Decimal Classification

A UDC selection for the building sector

THE SWEDISH INSTITUTE OF BUILDING DOCUMENTATION

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Foreword

When computer aided information retrieval was introduced, many documentation centers and libraries began to use keywords as identifiers of information.

However, as the collection grows in size and the number of users increases, one realizes the difficulties in finding a piece of information with the help of keywords. Most thesauri become practically open-ended, the number of keywords grows continuously and their use varies considerably.

In the planning and building sector we used to have an international exchange of abstract cards which could be interfiled according to ABC—a selection from the Universal Decimal Classification. UDC formed the base for this international cooperation.

To continue this cooperation in the computer age a similar base is required—an artificial language common to all participants.

In view of the fact that UDC is known to most building documentalists and librarians all over the world and translated into many languages, we found it most practical to elaborate a system based on UDC, usable for computer-aided or coincidence-card based information retrieval—the RUDC, reduced UDC.

RUDC contains 250 main codes and 50 auxiliary codes which can be freely post-coordinated when searching. For larger collections the RUDC will be supplemented by a keyword system for in-depth indexing of the information. The keywords can be post-coordinated with the RUDC-codes.

The RUDC was completely elaborated by architect Bernhard Lindahl.

It has been used—together with an open-ended list of keywords—since 1975 in the Nordic database BYGGDOK with very satisfactory results.

Stockholm, June 1982

Adolf Stern

The RUDC, or Reduced Universal Decimal Classification, is a selection of classification codes intended for use in the building and planning sector.

Characteristics of the RUDC

The RUDC selection was made with the intention of obtaining a classification schedule which functions well for certain purposes. The characteristics by which the RUDC differs from previously available schemes of building classification are mainly the ones described in the following six points.

- The number of codes in the selection is small and there are only 250 subject groups (RUDC main codes), so that a classifier has few alternatives, can look them up quickly or in fact learn them more or less by heart for routine work.
- The selection was made from an existing international system, the UDC, which already had been widely applied in eastern and western Europe. Therefore, hundreds of thousands of examples of the interaction between building literature as actually published and trained classifiers as actually applying UDC codes could be studied and analysed statistically.
- Out-of-context matching of RUDC codes was foreseen so that the codes could be handled like keywords and work together with keywords, if the total retrieval system makes use of both. Therefore, a hierarchically "higher" (more general) code should not be used as a shorter way of writing several "lower" (more specific) RUDC codes. For example, available codes include 628.1 and 628.2 and 628.3 etc, and if a book treats these three subjects in detail, all three codes should be assigned and not be collectively replaced by 628 only. At the search stage 628 should be expected to retrieve general overviews rather than specific matter. Instead, some search formula for the various branches (equivalent to 628...) should retrieve information containing details and covering one or several branches as one wishes at the moment. In short, the RUDC codes are best handled as self-contained groups "cut loose from the UDC hierarchical tree".
- The subject groups were derived from a recent version of a continuously updated international system, namely the 1977 version of the Universal Decimal Classification (UDC) as defined in the series of "Extensions and Corrections" published by the Fédération Internationale de Documentation (FID). The selection of 250 groups was proportioned statistically and tested experimentally to obtain groups of equal size, as far as possible with-

out seriously violating the logic of the original UDC schedules. Of course, evenness of groups cannot be maintained if the same schedule is applied to very different libraries or collections. The proportioning of the RUDC groups was made for the case of a comprehensive and very varied collection of current building and planning literature.

- The RUDC codes are intended for retrieval with present-day methods. An important principle is to combine several search elements during the search process (so-called "post-coordination"). This is often carried out by electronic methods in computerized databases, but also by the manual method of optical coincidence cards. The classifier can prepare for post-coordination by interpreting each RUDC code as meaning "important association" to the subject area in question rather than the "complete picture" of the subject in all its respects. If this interpretation is used, more codes will be assigned, thus providing more raw material for variations in the search process.
- The present-day trend towards using words for retrieval of specific information has influenced the RUDC selection in such a way that it concentrates on meeting the needs of also having broader groups with consistent contents. The decision to have 250 subject groups and not much more or much less was based on the assumption that an ordinary monograph, report or article contains meaningful contributions to about two or three conventional subject areas. Therefore, a single-step search by one RUDC code will normally reach the order of "one in 100" (that is the one-per-cent level or one reference out of every one hundred in the total file). A two-step search of the type 69.025.3:691.11 meaning flooring: wood can reach well below the order of "one in 1 000" using RUDC codes only, while keywords will take over more and more as one passes to "one in 10 000" and beyond.

Summary of characteristics

According to the six points above the advantages to be expected from suitable applications of the RUDC should be:

- speed and consistency in routine classification work;
- subject groups based on conventional and familiar concepts but weighted according to where problems are nowadays and not where they were several decades ago;
- modified influence of the UDC principle of hierarchy so that it still assists in the definition of groups but is not permitted to interfere with the efficiency of post-coordination for retrieval;
- the special building selection derived from a universal system so that marginal subjects also have their place and are not excluded, and derived from an established international system so that tables for fuller interpretation of the intended coverage of each code are immediately available in a number of languages;

- division into groups adjusted by feed-back from recent experience so that a fairly even distribution on codes will result if modern building literature in a very wide sense is covered, including physical planning, housing, architecture, civil engineering, building services, energy supply etc;
- the straightforward possibility of interaction between classification codes and indexing words within the same retrieval system, with codes more important towards the wide-concept end and words gradually taking over towards the narrow-concept end of the whole spectrum from very general subjects to very specific ones.

A UDC selection for the building sector

Main Table (Subject Codes)

GENERALITIES

0	knowledge and culture in general
001	organization of intellectual work
002	documentation
006	standardization
016	bibliographies of special subjects
02	library practice
06	institutions
061.3	conferences
061.6	research institutions
08	miscellaneous

MANKIND

1	philosophy and psychology
2	religion

SOCIETY

3—05	social categories
30	society in general
31	statistics
32	politics
330	economics
331	labour
331.82	working conditions
332	real estate
336	public finance
338	production of wealth
339	commerce
34	law
347	civil law
351	public administration
351.77	housing administration
351.78	building safety administration
352	local administration
353	regional administration
354	central administration
36	social welfare and security

- 37 education and training
- 379 recreation

NATURAL SCIENCES

- 5 natural sciences
- 502 nature
- 51 mathematics
- 52 geodesy and cartography
- 53.08 methods of measurement
- 531 general mechanics
- 532 mechanics of fluids
- 533 mechanics of gases
- 534 vibrations
- 536 heat, thermodynamics
- 537 electricity
- 539 matter
- 54 chemistry
- 55 earth sciences
- 550 geophysics and geochemistry
- 551 geology
- 551.5 meteorology and climatology
- 556 water
- 57 biology
- 58 botany
- 59 zoology

TECHNOLOGY

- 6 applied sciences, technology
- 61 medical sciences
- 613 hygiene
- 614.7 environmental hygiene
- 614.8 accidents and safety measures
- 614.84 fire safety

MATERIALS AND FORMS IN TECHNOLOGY

- 62—03 materials
- 62—037 fibres
- 62—40 structure of materials
- 62—41 flat or laminar shapes
- 62—42 extended shapes
- 62—46 hollow shapes
- 62—47 transverse holed shapes
- 62—49 particle form

TECHNOLOGY (CONT.)

- 62—5 operation and control devices
- 620.1 testing of materials
- 620.17 testing of strength, mechanical properties
- 620.19 defects and deterioration of materials

ENERGY RELATED TECHNOLOGY

- 620.9 energy supply
- 621 mechanical engineering
- 621.3 electrical engineering
- 621.5 pneumatic machines
- 621.56 heat pump and refrigeration technology

FLUIDS TECHNOLOGY

- 621.6 conveyance of gases and liquids
- 621.642 storage tanks
- 621.643 conduits, pipes and fittings

FACTORY AND WORKSHOP PRACTICE

- 621.7 plastic working etc
- 621.8 mechanical power transmission
- 621.9 mechanical tooling, cutting etc
- 622 mining, quarrying, explosives

STRUCTURAL ENGINEERING

- 624 civil engineering
- 624.011 structures of organic materials
- 624.012 masonry structures
- 624.012.3 precast concrete structures
- 624.012.4 concrete structures
- 624.012.8 clay and brick structures
- 624.014 metal structures
- 624.016 structures of mixed materials
- 624.04 structural design (overall)
- 624.07 structural design (in detail)

CIVIL ENGINEERING WORKS

- 624.1 rock mechanics
- 624.13 geotechnics and earthworks
- 624.131 soil mechanics
- 624.131.5 soil statics and dynamics
- 624.15 foundations
- 624.154 pile foundations
- 624.19 tunnels and tunnelling
- 624.21 bridge construction
- 624.9 large superstructures
- 625 railways and similar means of transport
- 625.0 road construction:auxiliary subjects
- 625.7 highway engineering, road construction
- 625.8 paving of roads and highways
- 626 hydraulic engineering
- 627 harbour and shore engineering
- 627.8 dams

ENVIRONMENTAL ENGINEERING

- 628** public health engineering
- 628.1** water supply
- 628.16** waterworks practice
- 628.2** sewers and sewerage
- 628.3** sewage treatment
- 628.4** garbage and refuse disposal
- 628.5** industrial hygiene (I: mostly external)
- 628.51** industrial hygiene (II: mostly internal)

TECHNOLOGY (CONT.)

- 628.8** indoor climate
- 628.9** lighting and illumination engineering
- 629** transport vehicles
- 63** agriculture etc
- 631.2** farm buildings
- 64** domestic science, housekeeping
- 643** living space

INDUSTRIAL AND BUSINESS MANAGEMENT

- 65** office management etc
- 656** transport
- 656.0** transport organization
- 657** accounts
- 658** industrial management, business techniques
- 659** public relations

BRANCHES OF INDUSTRY

- 66** chemical engineering
- 662** combustion engineering
- 666** kiln-type industries
- 666.97** concrete industry (I)
- 666.98** concrete industry (II: reinforced goods)
- 667** colour industries
- 669** metallurgy
- 67** miscellaneous industries
- 674** timber and woodworking industry
- 68** precision mechanisms, control systems
- 681.3** automatic data processing

BUILDING

- 69** the building sector
- 69.00** the building process

STRUCTURAL PARTS OF BUILDINGS

- 69.02** building elements
- 69.022** walls and partitions
- 69.022.3** external walls
- 69.024** roofs

- 69.025 floors, decks and ceilings
- 69.025.3 floorings
- 69.026 stairs, ramps, lifts
- 69.028 doors, windows

BUILDING (CONT.)

- 69.03 construction under special circumstances
- 69.05 site organization
- 69.056 industrialized building (I: at the factory)
- 69.057 industrialized building (II: at the site)
- 69.059 special maintenance etc
- 69.059.2 building damage and repair
- 69.059.3 strengthening and renovation

BUILDING MATERIALS AND COMPONENTS

- 691 building materials collectively
- 691.1 organic building materials
- 691.11 timber and wood
- 691.17 rubber, plastics
- 691.2 natural stone, mineral aggregates
- 691.3 artificial stone
- 691.32 concrete
- 691.327 unreinforced concrete
- 691.328 reinforced concrete
- 691.4 clay, brick and ceramic materials
- 691.5 cements, mortars, sealants etc
- 691.6 glass
- 691.7 non-ferrous metals
- 691.71 iron and steel

CONSTRUCTION WORK ON THE SITE

- 693 masonry work etc
- 693.5 construction in concrete (I: incl. reinforcement)
- 693.54 construction in concrete (II: specific operations)
- 694 carpentry

SERVICES IN BUILDINGS

- 696 supply services
- 696.1 plumbing
- 696.4 hot water installations
- 696.6 electrical installations

HEATING, VENTILATION AND AIR CONDITIONING

- 697 climatic control
- 697.1 design data for heating and insulation
- 697.2 space heating
- 697.3 central heating
- 697.34 district heating
- 697.4 circulation in heating systems

- 697.7** non-conventional heating systems
- 697.8** chimneys and flues
- 697.9** ventilation, air conditioning
- 697.92** ventilation specifically
- 697.94** air conditioning
- 697.95** circulation and movement of air
- 697.97** temperature conditioning and control

PROTECTIVE BUILDING MEASURES

- 698** painting etc
- 699.8** miscellaneous proofing and insulation
- 699.81** structural fire precautions
- 699.82** water-proof and damp-proof construction
- 699.84** sound-proof construction etc
- 699.86** thermal insulation

THE ARTS

- 7** art and related fields

PHYSICAL PLANNING

- 711** generalities of planning
- 711.1** analyses for planning
- 711.13** population as planning factor
- 711.14** land use
- 711.16** planning progress, renewal
- 711.2** regional planning
- 711.3** rural development planning
- 711.4** urban planning
- 711.4.0** urban environment
- 711.5** urban zoning
- 711.55** detailed area planning
- 711.58** residential areas
- 711.6** site planning, grouping
- 711.7** planning of traffic routes
- 711.8** planning of supply lines
- 712** landscape design
- 719** preservation of amenities

ARCHITECTURE

- 72** architecture
- 72.01** aesthetics and theory of architecture
- 72.025** preservation and conversion of buildings
- 72.03** architectural history
- 72.04** architectural ornamentation
- 72.09** architectural competitions
- 721** buildings generally
- 721.01** general design of buildings
- 721.05** design of spaces and rooms

TYPES OF BUILDINGS BY FUNCTION

- 725 public buildings
- 725.2 commercial buildings, office buildings
- 725.3 buildings for transport, traffic, storage
- 725.4 industrial buildings
- 725.5 hospitals, welfare buildings
- 725.7 restaurants, baths
- 725.8 buildings for public entertainment and recreation
- 726 ecclesiastical and funerary architecture
- 727 schools, educational buildings
- 727.7 buildings for science and art

RESIDENTIAL BUILDINGS

- 728 housing in general
- 728.1 design of housing
- 728.2 multi-family housing
- 728.3 single-family housing
- 728.5 hotels etc
- 728.7 occasional and mobile dwellings

OTHER SUBJECTS

- 74 drawing, graphic presentation
- 77 photography
- 79 sport, games etc
- 80 language
- 9 history, geography

Auxiliary Tables (Aspect Codes)

POINT OF VIEW

x.001.1	programme and proposal aspect
x.001.2	execution planning
x.001.24	calculations
x.001.5	research
x.001.53	laboratory research
x.001.55	field research
x.001.57	model tests using physical models
x.001.573	model tests using mathematical models
x.001.6	development, research applications
x.001.63	design
x.002	methods of execution
x.002.51	production plant and machines
x.002.54	tools and implements
x.002.56	instruments, precision equipment
x.002.6	product aspect
x.003	general economic aspect
x.003.1	saving-oriented economic aspect
x.003.12	cost figures, data for estimates
x.003.2	finance and contract aspect
x.004	use and operation aspect
x.004.12	properties, characteristics
x.004.6	damage and repair
x.007	personnel aspect
x.008	organization aspect
x.009	relationships

FORMS OF DOCUMENTS

(0.062)	presentations for general readers
(03)	reference works
(07)	educational works
(083.1)	advice, guidelines
(083.7)	co-ordinating documents
(083.8)	lists
(084)	pictorial works
(085)	publications of firms
(094)	laws
(094.7)	regulations

CATEGORIES OF PLACE

- (1—21) urban areas
- (1—22) rural areas
- (1—77) developing countries
- (100) international
- (211) cold areas
- (213) warm areas
- (24) underground
- (26) at sea

PLACE BY GEOGRAPHICAL DIVISIONS

- (4) Europe
- (5) Asia
- (6) Africa
- (7) North and Central America
- (8) South America
- (9) Australasia. Oceania. Polar regions

CATEGORY OF TIME

- '313' future time

A UDC selection for the building sector

Principal headings

GENERALITIES

- 0** **knowledge and culture in general**, multi-disciplinary studies etc in the broadest sense; types of expression, e g semiotics, and forms of expression, e g annual reviews
- 001** **organization of intellectual work** e g terminology, research procedures, report preparation
- 002** **documentation** as an activity, making information available and retrievable with a high degree of specificity, e g through the use of data bases and data banks etc
- 006** **standardization** both as activity and subject area (only the auxiliary code (083.7) is used to indicate the resulting standards as a particular form of publications with co-ordinative functions)
- 016** **bibliographies of special subjects**, including also publications lists of other formal character and annotated reviews of pertinent literature (bibliographies not primarily intended for the retrieval of subject matter are assigned to heading 0)
- 02** **library practice**, includes classification, indexing terminology, retrieval methods et al
- 06** **institutions** seen as individual entities (classification codes expressing the subject areas of their activities to be added): associations, organizations, institutions except those listed under 061.6, exhibitions, trade fairs, business firms
- 061.3** **conferences, meetings, symposia, congresses, assemblies** etc (an indirect guide to the most topical subject areas at any given time can be had by sorting out conference documents of that period, but UDC codes

expressing the subjects of each conference should always be added)

061.6 **research institutions**, research institutes and councils, research stations, experimental stations, testing institutes, technical operations control and advisory bureaus, information and computer centres

08 **miscellaneous**, a code to indicate that the document in question contains substantial portions of material which does not touch upon building so that the document is not fully indexed and classified—this heading compiles all literature which can be more closely studied in the original for the purpose of retrieving further marginal subjects

MANKIND

1 **philosophy and psychology**, the understanding and evaluation of our world, includes such related subject areas as perception, professional ethics etc

2 **religion**, some marginal links with application to building literature can be observed in connection with matters of a sacred, devotional, meditational or missionary character (but design of buildings specifically for religious functions to be classified only under heading 726)

SOCIETY

3—05 **social categories** as they pertain to building and planning questions, a supplementary aspect for cases which need physical modification in order to properly serve categories which differ from the majority of citizens, such as children, the elderly, the handicapped, immigrants etc

30 **society in general**, i e society and groups and individuals in interaction, social sciences generally and current trends in social reform, and more specifically, citizen and consumer participation, sociology, sociology

31 **statistics** as an activity as well as its results and statistics as a form of presentation of data (some restraint in the application of heading 31 is recommended: tables of figures used as substantiating proof in trial series etc can be disregarded and taken for granted, and certain questions of statistical methods can be assigned to heading 51, mathematics)

- 32** **politics**, policy positions and decision-making in national and local matters, distribution of public power, party affiliations, class differences etc
- 330** **economics**, basic economic concepts e g utility, capital, causes of economic cycles, growth etc from a public (non-private) point of view, national accounts, general living standards, theories of economics
- 331** **labour**, ergonomics, work satisfaction, labour force, employer-employee relationships, employment, jobs, labour market, conflicts, benefits
- 331.82** **working conditions** from a physical point of view including the character and quality of premises and facilities (however, basic analysis e g ergonomics under 331, particular health risks under 613 and protection against specific accident risks under heading 614.8)
- 332** **real estate**, land and buildings from an economic and social policy point of view (in spite of the restrictions intended in the original definition given in UDC tables, a good deal of other material on buildings as property is found under this heading due to the general conception of real estate in everyday language; in addition, some unclearly positioned subjects previously assigned to the discarded UDC code 333 accrue here, when 333 is no longer officially available)
- 336** **public finance**, taxes, state and municipal income and expenditures, banking and credit systems, all matters related to fiscal interest, the activities of the stock exchange, foreign exchange proceedings (insurance, however, under heading 36)
- 338** **production of wealth**, prevalent economic characteristics at any particular time i e business cycles, prices, volume of production, interaction between government and industry (due to the lack of more suitable headings for generalizations concerning high or low prosperity, can even include such broad subjects as industry collectively and economic infra-structure)
- 339** **commerce**, matters adhering to the commercial sector, market analyses concerning both goods and services, wholesale and retail trade, foreign trade, customs and duties, international economic relations

- 34 **law**, fundamental theory of jurisprudence, penal policies, national and international systems of jurisprudence, related United Nations activities, certain specific fields of legislation and legal interest such as consumer rights, equality before the law
- 347 **civil law**, legal documents such as contracts, principle and property rights concerning real estate, rental and entrepreneurial agreements, legal and professional responsibility, commercial, corporation and institutional law, emanation rights, copyright, juridical systems including trial procedures and arbitration
- 351 **public administration** (those parts not assigned to other UDC headings, especially the following eight), public property, expropriation as an administrative measure, supervision of public order and traffic, methods of public administration, public service corporations including their pricing policy, promotion of cultural activities, supervision of public authorities
- 351.77 **housing administration**, public measures for new housing and for housing rehabilitation, regulations for loans and grants for these purposes, rental and housing policies, pre-requisites thereof in the housing stock and in housing production etc, public health administration in general
- 351.78 **building safety administration**, public control of safety (and health, but cf above) in buildings by means of building codes and regulations, permit procedures, inspections etc, often supplemented by technical rules and codes of practice to define what can be deemed to satisfy as accepted engineering practice
- 352 **local administration**, public administration at the local level which, differently defined and named in different countries, may comprise municipalities and other primary communes, cities, towns, districts, not however territorial divisions of similar size for activities of the private sector
- 353 **regional administration**, public administration at the regional level, represented e g by county councils or by state governments in a federal system or by secondary municipal groupings e g greater municipalities
- 354 **central administration**, the national state as a level of public administration: the entire country, national fields of responsibility

- 36** **social welfare and security**, medical care, family policies, relief to specific groups e g the elderly, child care, factors that affect social welfare, voluntary aid; insurance services e g fire, damage and social responsibility insurance
- 37** **education and training** at all levels and in all forms including related questions e g vocational advisory services, scholarship grants, apprentice arrangements
- 379** **recreation**, general prerequisites of recreation and outdoor activities, tourism, hobbies etc (the subject matters of these activities are found under heading 79 et al)

NATURAL SCIENCES

- 5** **natural sciences**, exact sciences in general, also in detail for those branches of science not assigned a place of their own among the following headings under 5 (e g the physics of light, colour theory)
- 502** **nature**, the interactions between nature and society, the dangers, possible harm and protective measures of importance for the ecological balance of an entire area including natural disasters, nature reservations, protection of natural resources, the adaptation of technology to accommodate desirable ecological goals
- 51** **mathematics**, including geometry, finite elements, numerical and statistical analysis, algorithms, computer programming etc where the stress is upon formal, mathematical operations
- 52** **geodesy and cartography**, measuring and mapping of the earth and space, especially land surveying and its applications to building, urban planning and cartography, also astronomy, space research and the measurement of time
- 53.08** **methods of measurement**, principles, methods and forms of presentation for measurement using physical variables, including questions of accuracy and also more everyday subjects such as the measurement of public consumption for purposes of cost distribution
- 531** **general mechanics**, basically, all fields of mechanics except those applicable to structural design for building and civil engineering under headings 624.04 and 624.07; specifically, rigid bodies and systems; in addi-

tion the measurement of geometrical and mechanical quantities (by this is meant the more directly obtainable measurements, while methods assigned to 53.08 often are such that an instrument indicates the interesting factor by actually recording the variation of some other factor)

- 532** **mechanics of fluids**, in general on hydromechanics and aeromechanics, especially the mechanics of liquids including loss of pressure, fluid velocity, capillary action, osmosis
- 533** **mechanics of gases**, in general on aeromechanics: air, water vapour and plasma, turbulence and other phenomena of air currents, aerodynamic applications of ventilation apparatus, the effects of lee formations, wind tunnels, propellers, rotors etc
- 534** **vibrations**, sound, noise, ultra and infra-sound, vibrations and their propagation, resonance etc with applications studied within acoustical technology
- 536** **heat, thermodynamics**, includes phase transformation theory, analysis of practical applications of heat transfer, radiation, insulation etc
- 537** **electricity**, static electricity, electro-magnetic phenomena etc, magnetism both in theory and in technical applications (technical applications of electricity including electromagnetism however mainly under heading 621.3)
- 539** **matter**, the physical nature of matter as defined by nuclear, atomic and molecular physics, structure and deformations of matter at the molecular level, radioactivity, physical explanations of e.g strength and malleability, occasionally with several aspects conventionally combined such as in fracture mechanics
- 54** **chemistry**, theoretical, experimental and analytical chemistry including crystallography and mineralogy, i.e. the substances themselves, their characteristics and reactions etc (also incompletely analysed natural substances, but without emphasis upon fields of application and means of production which fall under other UDC headings)
- 55** **earth sciences**, stratigraphy, the existing geological formations of the terrain and their history, economic

geology and mineralogy, mineral deposits, fossil fuel deposits—in short, all earth related sciences not assigned to the following four UDC 55 headings

- 550** **geophysics and geochemistry**, including some auxiliary sciences to geology encompassing earthquakes, seismology, seismic investigation methods, geothermal energy (the different case of heat energy storage in surface layers also regarded to belong here as a kind of geophysics), the earth's radioactivity, electricity and magnetism, mineral prospecting methods
- 551** **geology**, movements in the earth's crust, volcanic activity and internal dynamics, external dynamics e g erosion and sedimentation, resulting terrain forms, physical oceanography e g sea water, tidal currents
- 551.5** **meteorology and climatology**, the atmosphere, weather, winds, lightning, solar radiation both clear and diffuse, outdoor temperature, precipitation, climatological zones, local and micro-climates e g in cities and in the vicinity of buildings
- 556** **water**, hydrology, surface waters and groundwater, their characteristics and the meteorological cycle including drainage, run-off systems and infiltration, natural and regulated lakes, streams and rivers
- 57** **biology**, phenomena that touch upon living organisms without being expressly assigned to specific plants or animals, e g the effects of micro-organisms
- 58** **botany** and its subdivisions and auxiliary subjects, also primarily non-botanical questions with relationships to definite genera and species e g choice of plants to obtain a particular environmental effect
- 59** **zoology** and its subdivisions and auxiliary subjects, also primarily non-zoological questions with relationships to definite genera and species e g the adaption of farm buildings to different categories of livestock (man as a biological specimen is here assigned to heading 61)

TECHNOLOGY

- 6** **applied sciences, technology**, in general on the application of science and polytechnical engineering, moreover, in detail on inventions and patents, also military technology

- 61** **medical sciences**, man as a biological being, anatomy, physiology, the sensory organs, medicine, allergies, diseases and their cures, drugs, poisons (also veterinary medicine)
- 613** **hygiene**, incl. industrial and domestic hygiene, personal hygiene and health care; climatological effects, health risks from injurious substances and from physical factors, the need for rest and relaxation, effects of disturbances, over-exertion
- 614.7** **environmental hygiene**, air and water pollution and land spoilage and their means of prevention, with emphasis upon public measures and the common environment
- 614.8** **accidents and safety measures** (except health and fire risks), accidents resulting in injuries to people i e falls, explosions, mechanical and vehicular accidents, corrosion etc and preventive measures and protective equipment
- 614.84** **fire safety**, fires and fire hazards considered from the point of view of risk, protection, damage, and methods of extinguishment (however, not building safety measures which fall under 699.81)

MATERIALS AND FORMS IN TECHNOLOGY

- 62—03** **materials**, the availability and suitability of materials for technical uses (other than for building, because building materials fall under the 691. . . headings and structures under the 624.01. . . headings) e g choice of materials for tools, apparatus, solar collectors etc
- 62—037** **fibres** as a category for technical uses, including building applications in reinforcement goods, felted goods, textiles etc
- 62—40** **structure of materials**, reserved for outstanding cases e g porous internal structures of cellular plastic, surface condition of polished stone etc (subdivision into solid, liquid and gaseous is not included because state of matter is seldom the main difference between technical alternatives)
- 62—41** **flat or laminar shapes**, slabs, panels, sheets, corrugated sheets, canvas, foils, strips, also laminated components, sandwich elements

- 62—42 **extended shapes**, columns, beams, rods, extended profile goods (some of which re-occur under the following two headings)
- 62—46 **hollow shapes**, closed or nearly closed hollow goods e g glass blocks, gutters, construction pipe (pipes for conduits under 621.643 only)
- 62—47 **transverse holed shapes**, objects with non-lengthwise holes and hollow spaces e g rings, perforated panels and pipe, unenclosed hollow block, transverse holes of structural significance, e g in beams, joists etc (all 62—4. . . headings taken into use here are intended primarily for structural elements)
- 62—49 **particle form**, regular and irregular bulk goods e g pellets, granular or crushed goods, chips etc

TECHNOLOGY (CONT.)

- 62—5 **operation and control devices**, equipment and apparatus for automatic or remote control e g for starting and stopping; components in automatically regulated technical systems (cf 68, regulatory technology at the systems level)
- 620.1 **testing of materials**, in general on all testing and specifically on types of materials testing not assigned to the two following headings, e g sampling, in-service tests, testing of uniformity, metallography and other investigations of structure (testing for fire resistance has no particular heading and is included here, but soil testing comes under 624.131)
- 620.17 **testing of strength, mechanical properties**, mechanical testing of materials e g tensile strength and pressure resistance, hardness and wear resistance; non-destructive testing methods for corresponding purposes e g radiography and ultrasonic testing, stress analysis
- 620.19 **defects and deterioration of materials**, surface defects e g casting flaws, discoloration; internal material flaws, chemical and physical action e g weathering, efflorescence, corrosion processes and effects, corrosion testing and prevention, testing in atmosphere chambers, ageing of materials, durability

ENERGY RELATED TECHNOLOGY

- 620.9 **energy supply**, including basic data on energy consumption etc, choice and utilization of energy sources

- 621** **mechanical engineering**, in general on mechanical engineering and, in detail, on steam and hydroelectric engineering including turbines, also thermodynamic engines including combustion engines
- 621.0** **nuclear engineering**, all non-military nuclear engineering, from isotope utilization to energy production, nuclear power plants, radioactive waste products (radioactivity as a physical phenomenon under 539)
- 621.3** **electrical engineering**, all fields of application from the construction and operation of high voltage systems to electronics for telecommunications systems and microcomponents (electrical theory under 537 and electrical installations as an element of building construction under 696.6)
- 621.5** **pneumatic machines**, pneumatics, compressors and compressed air tools, wind energy and wind driven generators; pneumatic overpressure applications e.g caissons and inflatable sport-halls; pneumatic underpressure applications e.g vacuum transport, vacuum technology
- 621.56** **heat pump and refrigeration technology**, refrigeration and cold storage installations, refrigeration equipment, refrigerants, and the reverse applications for heating in heat pump systems

FLUIDS TECHNOLOGY

- 621.6** **conveyance of gases and liquids**, fans, ventilators, volume regulating apparatus, pumps, water raising equipment, use of fluids for transport e.g of solid particles in air or liquids, slurry transport
- 621.642** **storage tanks**, cisterns and other containers for gas, liquids or particle material; pressure vessels, transport tanks, underground containers, open, stationary containers (additional cases of built containers occur in building works seen as an entirety, e.g reservoirs of power stations, water works, sewage treatment plants etc and swimming pools of sports centres etc)
- 621.643** **conduits, pipes and fittings**, including pipe elements, open drains, hoses, pipelines etc, connections, intakes, outlets and other similar fittings (work related to utility trenches in the ground is assigned mainly to 624.13 and ducting for ventilation purposes to 697.92)

FACTORY AND WORKSHOP PRACTICE

- 621.7** **plastic working etc**, welding, soldering, torch cutting, rolling, extruding, forging, metal casting, heat treatment, relevant workshop methods and techniques, e g tolerances, finishing, packaging
- 621.8** **mechanical power transmission**, cranes, hoisting devices, conveyors, lifts, escalators, excavators, loading devices, dredgers etc, especially the machinery aspects of such powered devices and also machine elements in general including connectors e g screws, clamps etc
- 621.9** **mechanical tooling, cutting etc**, machining with chip formation, planing, grinding, crushing, sieving, sawing, lathing, drilling (of the workshop variety), certain kinds of chipless working e g sheet bending and stamping, certain methods not using edged tools e g cutting by jets
- 622** **mining, quarrying, explosives**, mines, mineral extraction in general including quarrying for building materials, gravel pits, extraction operations for fossil fuels e g oil, gas, coal, peat; rock and earth drilling, detonation operations in general (prospecting however under 550)

STRUCTURAL ENGINEERING

- 624** **civil engineering** in general and particularly the parts related to structural design and to the construction of works other than normal buildings (the erection of buildings seen as a general subject is assigned mainly to 69 and 69.00)
- 624.011** **structures of organic materials**, timber buildings and frameworks, loadbearing components of wood, wood-based materials, plastics etc
- 624.012** **masonry structures** in general, loadbearing elements of natural stone, ordinary concrete blocks, lightweight blocks etc (i e non-organic masonry components other than bricks and ceramic components)
- 624.012.3** **precast concrete structures**, prefabricated frameworks and loadbearing components of concrete, prestressed concrete, aerated concrete, clinker concrete (cladding elements primarily under 666.97)
- 624.012.4** **concrete structures**, in general on loadbearing structures of concrete (regardless whether precast or cast

in situ) and specifically on in-situ structures of all types of concrete including frameworks with infilling panels (includes also bridges etc, but concrete works as a group only for statistical purposes etc are assigned to 691.32)

- 624.012.8** **clay and brick structures**, structures of clay-based materials of any quality from sun-dried mud and stabilized soil blocks to burnt bricks and special-quality ceramic components
- 624.014** **metal structures**, structural elements and frameworks of steel, aluminium etc (this heading is analogous to the one on concrete structures above but allows still greater variations of structural principles e.g. cable and sheet metal structures)
- 624.016** **structures of mixed materials**, composite structures where two or more materials interact to provide structural stability (with a relatively equal contribution to the structural capacity so that one material is not counted only as a reinforcement, connector or otherwise)
- 624.04** **structural design (overall)**, analyses of stresses due to both determinate loads e.g. dead weight, and stochastic loads e.g. wind loads; assumptions concerning load combinations, choice of loadbearing system, structural capacity from an overall point of view, load-induced deformations, safety factors, design aids e.g. physical models
- 624.07** **structural design (in detail)**, dimensioning and structural design with emphasis upon carrying through to the detail level (however also including complete structures and all types of structural shapes from linear elements to double-curved shells), with control checks against instability e.g. tipping, buckling; small-scale details e.g. connections, anchoring, stiffening etc

CIVIL ENGINEERING WORKS

- 624.1** **rock mechanics** (here are also included a few special subject areas not covered by the following 624.1... headings, among them ice engineering and protection of bridge piers)
- 624.13** **geotechnics and earthworks**, in general on all geotechnics and in detail on various kinds of earthworks e.g. earthmoving, excavation, utility trenching, fills,

- slope stabilization, pile sheeting, sheet pile anchoring, retaining walls, soil consolidation, compaction
- 624.131** **soil mechanics**, engineering geology, types of soils considered from the geotechnical aspect, soil investigations including technical and economic preliminary investigations and analyses of soil tests, engineering aspects of ground water
- 624.131.5** **soil statics and dynamics**, with emphasis on calculations and phenomena important for stability e.g determination of the bearing capacity of the subsoil, soil pressure and stability, movement, settlement, collapse, effect of vibrations
- 624.15** **foundations**, all types of foundation works except pile driving (ordinary excavation including sheet piling come under 624.13 and building drainage under 696.1), all constructed foundations including simple house foundations, machine foundations etc; temporary measures necessary during construction e.g coffer dams, caissons, drainage, earth freezing etc, also the reinforcement of existing foundations
- 624.154** **pile foundations** as structural form, piling as type of work, all kinds of piles (after having left the factory) including piles cast in-situ
- 624.19** **tunnels and tunnelling**, roadway, water and sewerage tunnels through rock, earth and under water; also tunnel-shaped underground spaces for various purposes (cf drilling and explosives under 622 and rock mechanics under 624.1)
- 624.21** **bridge construction**, bridges in general, components, structure (type of material from a structural standpoint under the 624.01... headings, architectural aspects under 725 and a number of other aspects under traffic route planning et al)
- 624.9** **large superstructures** (other than bridges and multi-storey buildings) e.g wide-span arches and roofs, silos, towers, masts, large-scale temporary supports, tall chimneys and smoke stacks etc
- 625** **railways and similar means of transport**, including various types of tracked transport for outdoor use e.g elevated and underground trains, cable railways, aerial cableways, moving walkways etc

- 625.0** **road construction: auxiliary subjects**, track and roadway characteristics from a vehicular and traffic safety point of view, binding agents, ballast, construction equipment and machinery, secondary effects, especially traffic noise and dust
- 625.7** **highway engineering, road construction**, design and construction of all types of roads from motorways to city streets and paths, also other spaces open to vehicular traffic, air fields, foot and bicycle paths etc including all work involved e g linear alignment, substructures, drainage, soil insulation, marking, illumination, safety etc
- 625.8** **paving of roads and highways**, including the paving of other related outdoor spaces
- 626** **hydraulic engineering**, in general all types of hydraulic construction works, and in specific inland canals, locks etc; works concerning water for agricultural purposes e g irrigation, large drainage projects, fish farms etc; moreover diving and underwater operations regardless of scope
- 627** **harbour and shore engineering**, port and harbour installations, breakwaters, quays, docks etc; hydraulic construction works for the protection of beaches and coasts, land reclamation etc; regulation of rivers and streams including simple dams, various maritime works e g beacons (cf installations for leisure boats under 725.8)
- 627.8** **dams** and reservoirs for hydroelectric power production and for combined uses, in general also hydroelectric power plants as a whole including buildings

ENVIRONMENTAL ENGINEERING

- 628** **public health engineering**, in general on technical means for providing a healthy environment, seen from the municipal or local community point of view
- 628.1** **water supply**, public supply for towns and cities etc including water catchments, water procurement, reservoirs, distributions systems, consumption patterns etc (water supply installations for a small numbers of users under 696.1)
- 628.16** **waterworks practice**, including water quality, purification processes etc, desalination

- 628.2** **sewers and sewerage**, sewerage systems, storm drainage, detention basins, maintenance, cleaning of drainage and sewerage systems
- 628.3** **sewage treatment**, sewage treatment plants, purification methods, composition of sewage, recycling, disposal into recipients (small installations for individual buildings under 696.1)
- 628.4** **garbage and refuse disposal**, public disposal systems; domestic, street, construction site refuse, junk, public toilets, methods of transport, separation of products for recycling, composting, burning and destruction of refuse
- 628.5** **industrial hygiene I**, prevention of and protection against exterior nuisances; treatment of liquid and solid waste from factories etc: odours, smoke and soot, with emphasis upon individual preventive and corrective measures against polluting emissions
- 628.51** **industrial hygiene II**, prevention of and protection against internal nuisances: dust, gases, micro-organisms, vibrations, noise and other nuisances resulting from industrial operations

TECHNOLOGY (CONT.)

- 628.8** **indoor climate**, human requirements relevant for heating, ventilation and air conditioning, criteria for climate comfort, data concerning temperature, dampness, air circulation in relation to people
- 628.9** **lighting and illumination engineering**, natural lighting of indoor spaces, artificial lighting of all kinds of spaces, light sources and their technological applications, light fixtures and lighting devices of all types
- 629** **transport vehicles**, all vehicles for transport: trains, cars and trucks, carts etc; moreover all sea and aircraft, rockets etc; interior furnishings of ships and trains etc; adaptation of fixed installations to vehicular use
- 63** **agriculture etc**, farming, forestry and other forms of areal production and their soil, plant, fertilization and equipment aspects; hunting, fishing, treatment and handling of products and produce e.g dairies, slaughterhouses etc

- 631.2** **farm buildings**, all types of buildings, sheds etc generally associated with areal production, even if non-farm: stalls, greenhouses, tractor sheds, mechanical equipment service and repair centres, structures necessary for logging operations etc, certain open-air complements including animal fences and cattle grids (farm housing however under 728)
- 64** **domestic science, housekeeping**, home economics in general, including consumer questions, institutional housekeeping, hotel management; at a more detailed level also cookery, household appliances, home furnishings and furniture, laundry, dishwashing, house cleaning and other comparable topics
- 643** **living space**, all rooms and spaces normally associated with dwellings: living rooms, bedrooms, kitchens (also large non-domestic kitchens), bathrooms, storage rooms etc; common space in multi-family housing blocks; room functions

INDUSTRIAL AND BUSINESS MANAGEMENT

- 65** **office management etc**, management theories and methods, company policy, goals, operation, rationalization etc; practical matters of administration e.g office routines, files and archives, duplication techniques, internal secrecy and security; moreover (less closely related to office work) operation of telecommunications, the graphics industry, the book industry
- 656** **transport**, traffic, transport by road, rail, sea and air (internal transport however under 658), in general and in detail with emphasis upon technical questions and physical manifestations
- 656.0** **transport organization**, system studies of large-scale traffic and commuting patterns, administrative measures concerning public transport, traffic regulation, parking, commuting, rates
- 657** **accounts**, bookkeeping, accounting systems, classification of accounts, cost estimation (also for real estate and building costs), budgeting, corporate taxation
- 658** **industrial management, business techniques**, types of enterprises, means of production and aids including installations, their localization and supply, internal transport, organization of manufacturing in fixed

installations (building production however mainly under 69.00); personnel administration; purchasing, marketing, selling, distribution

- 659 **public relations**, publicity, broad distribution of general information and research results as well as commercial advertising, special methods of dissemination at all levels from the mass media to advisory services and text on signboards

BRANCHES OF INDUSTRY

- 66 **chemical engineering**, in general on the chemical processes used in production, chemicals and chemical goods used in engineering, certain particular categories e.g. the petro-chemical industry, refineries, food and beverages industry
- 662 **combustion engineering**, combustion theory, fuels, explosives, operation of burners and heating plant, energy questions associated with fuels and firing
- 666 **kiln-type industries**, glass, ceramics, porcelain, brick, lime, sand-lime, gypsum and cement industry, also related materials and additives
- 666.97 **concrete industry I**, in general on ready mixed concretes and mortars and industrially produced concrete components and building elements, in detail on the composition of such concretes and mortars, fabricated goods of unreinforced concrete and lightweight concrete, special products e.g. coloured concrete tiles, steam treated aerated blocks, centrifuged pipe, surface-treated wall panels etc
- 666.98 **concrete industry II (reinforced goods)**, concrete element production plants, manufacture of reinforced heavy and lightweight concrete goods, in general on concrete with special forms or dimensions of reinforcement e.g. prestressed concrete, ferrocement, steel core concrete
- 667 **colour industries**, pigments, solvents and binding agents in paints and dyes; printer's artist's and builder's paints and inks, lacquers, other colouring methods e.g. staining, industrial spray painting, spraying equipment and booths, drying ovens, stoving (painting as building site work, however, under 698)

- 669** **metallurgy**, characteristics of metals, ore processing, production of steel and other metals, quality grades, alloys, metallurgical finishing processes e g galvanization
- 67** **miscellaneous industries**, metal goods, leather, paper and paper pulp, textiles, plastics, rubber, working of natural stone; especially concerning plastics wider scope than structural aspects only (applications in building and construction under 691.17 for plastics and 691.2 for stone)
- 674** **timber and woodworking industries**, raw materials, species of timber trees and their wood, sawmills, seasoning, kiln-drying, impregnation etc; industries based on wood materials including wood waste, chips, bark and cork, formed wooden products e g sawn timber, glued components, joinery, sheets and veneers (systems of prefabricated houses have their principal place under 69.056)
- 68** **precision mechanisms, control systems**, in general on industries and trades for finished or assembled articles where precision is essential e g clocks, meters, locks and other fine metalwork, instruments, control mechanisms; also on self-acting devices and their interactions seen at the systems level
- 681.3** **automatic data processing**, in general on computers including networks and remote terminals, minicomputers including pocket calculators, data processing by machine in digital or analogue form, application aspects of computer programs, computer-aided interactive methods e g computer graphics

BUILDING

- 69** **the building sector**, summarily, the main concepts that distinguish the building and construction sector from other sectors (buildings seen more closely as objects come under 721 and subsequent headings)
- 69.00** **the building process**, more in detail on the conception and production stages of building and construction undertakings (there are preceding and subsequent stages of property development and real estate management, but they are not placed together consecutively in the UDC system and can best be assigned to 332)

STRUCTURAL PARTS OF BUILDINGS

- 69.02** **building elements**, comprehensive studies or mixed selections concerning parts and elements of buildings e g published as building detail sheets; moreover various building components not given a separate heading: shafts, culverts, service ducts, chutes, trash disposal ducts, exterior components such as flagstaffs, site complements such as steps in the ground; also details not restricted to any specific place e g joints (building foundations as a separate building element, see 624.15)
- 69.022** **walls and partitions** in general (cf the following) including foundation walls, bearing walls, inner partitions, dividing walls, party walls, free-standing walls
- 69.022.3** **external walls**, walls as protective elements against the climate, facades, claddings and applied facings, curtain walls, details relevant to exterior walls and wall openings e g embrasures, jambs, lintels and sills; all projecting exterior elements e g balconies, galleries, canopies
- 69.024** **roofs**, including terraces, cupolas and domes; bearing elements, coverings, complements e g handrails, skylights etc (drainage fixtures, gutters etc primarily under 696.1)
- 69.025** **floors, decks and ceilings**, including slabs on the ground and suspended floors, also attic floors, decks, interior galleries, interior balconies; also subfloors and ceilings
- 69.025.3** **floorings**, floor coverings and relevant complements e g baseboards, floor grills
- 69.026** **stairs, ramps, lifts**, both interior and exterior, fixed and collapsible, elevators, escalators (as building components, but as machinery under 621.8 and as spaces under 721.05)
- 69.028** **doors, windows** and comparable opening and closing devices, industrial large doors, gates in walls (gates in fences together with other enclosures under 69.02, roof windows and skylights also under 69.024 and movable partitions also under 69.022), bay windows, window shutters, sunscreens and protective grills in connection with doors and windows

BUILDING (CONT.)

- 69.03** **construction under special circumstances**, extreme or unusual forms, shapes or dimensions e.g tall multi-storey buildings, skyscrapers; demountable, removable, alterable, transportable structures; building in unusual surroundings and especially on and under water, in countries foreign to the builder, in third world countries, in the tropics and in extreme cold-weather areas
- 69.05** **site organization**, the establishment and organization of the building site or construction area, staking, marking, utility and safety arrangements for the duration of the work (work rationalization however mainly under 69.057)
- 69.056** **industrialized building I**, that part which takes place in the factory or permanent plant, prefabricated buildings as an entirety and as a building system e.g lightweight or heavy structures, building element manufacture in stationary plants (design aspects of concrete elements under 624.012.3 and manufacturing engineering of such elements under 666.98)
- 69.057** **industrialized building II**, that which takes place on the building site including prefabrication in temporary field plants or similar; erection of building elements including relevant questions of tolerances etc, rationalized serial production other than erection, efficient casting formworks including slipform, tilt-up and lift-slab methods; building scaffolds and scaffold erection, construction lifts and transport facilities etc
- 69.059** **special maintenance etc**, certain works and aspects regarding existing buildings: cleansing of exterior walls and surfaces, thorough maintenance operations resembling building undertakings; the service life of buildings; the moving, raising and demolition of buildings with or without subsequent new construction
- 69.059.2** **building damage and repair**, wear and tear, failure due to errors or specific influences, formation and occurrence of cracks, collapse, damages and remedial measures in existing buildings
- 69.059.3** **strengthening and renovation**, restoration in a technical sense, modernization, reconstruction, re-equipping, expansion and conversion for alternative uses of existing buildings

BUILDING MATERIALS AND COMPONENTS

- 691** **building materials collectively**, building materials without emphasis on particular substances, moreover in detail for goods such as nails, braces etc considered as materials but which lack interest for division into the following headings of groups of substances
- 691.1** **organic building materials** other than those covered below, e g straw, bamboo, cork, paper, wood fibre, bitumen, tar, asphalt concrete, animal hair
- 691.11** **timber and wood**, structural characteristics of wood in general, wooden goods for building purposes including wood-based products such as gluelam, block-board, plywood, veneers, particle board, chipboard, wood-wool slabs, excelsior board (fibreboard however under 691.1 and the distinguishing characteristics of timbers under 674)
- 691.17** **rubber, plastics**, building polymers (in solid form with or without reinforcement, however not as binding agent etc)
- 691.2** **natural stone, mineral aggregates**, unburned minerals used in building e g marble, slate, bentonite, asbestos, vermiculite; in general on sand, gravel and other similar materials (specifically as road material under 625.0 and as concrete aggregate under 631.32)
- 691.3** **artificial stone**, gypsum board, gypsum components, sand-lime bricks, pressed composition stone blocks, magnesia, false stone, polymer concrete and other non-cement concretes
- 691.32** **concrete**, general overview and miscellaneous details, with emphasis upon the utilization aspects of ordinary cement concretes
- 691.327** **unreinforced concrete**, encompassing lightweight aggregate and porous concrete as well as fields of use for heavier, unreinforced concrete products such as building blocks, pipe, roof tiles, floor and paving tiles
- 691.328** **reinforced concrete**, mainly the uses of reinforced concrete components including prestressed concrete, lightweight concrete, asbestos cement; also products reinforced with materials other than steel e g organic or glass fibres (the main aspects of reinforcement as such are assigned to structural design 624.012.4 and production operations 666.98 and site work 693.5)

- 691.4** **clay, brick and ceramic materials**, dried, stabilized or burned (baked) materials, e g adobe, mud in walls and floors, soil-cement blocks, bricks, pipes, roof tiles, ceramic products including sanitary goods
- 691.5** **cements, mortars, sealants etc**, including lime, cements, mortars and their binding agents, plasters, putties, bedding and filling materials, sealing compounds, joint sealers, glues (also in general on formless materials for finished surfaces, paints however mainly under 667 if seen as a separate group)
- 691.6** **glass**, all inorganic types for window glass, glass blocks, glass wool, mineral wool, enamels etc
- 691.7** **non-ferrous metals**, copper, brass, bronze, lead, zinc, aluminium, light alloys etc for building applications (non-building applications under 62-03)
- 691.71** **iron and steel** and other ferrous metals such as cast iron, wrought iron, stainless steel (as in other 691 . . . headings, emphasis is upon their use in building components and not in other objects, and 624.01 . . . headings are used as soon as the emphasis is upon load-bearing functions of particular materials)

CONSTRUCTION WORK ON THE SITE

- 693** **masonry work etc**, manual or semi-manual construction operations which have no classification group to themselves in the selection below: masonry, whether natural stone, concrete block or brick; plastering and rendering, tiling, assembling structural members, work with curtain walls and panel infillings etc (work associated with the various parts of buildings comes primarily under the 69.02 . . . headings for parts, however, and the erection of prefabricated structures falls primarily under 69.057)
- 693.5** **construction in concrete I**, in general on all site-oriented work in concrete, and in detail on reinforcement, its fitting, placement and anchoring; stressing methods for both prestressed and post-stressed reinforcement, post-tensioned concrete
- 693.54** **construction in concrete II**, in detail on site-oriented work in concrete: in-situ placing methods for ordinary mass concrete, flow concrete, injection concrete etc, mixing, additives, casting, pumping, spraying, vibrating, operations for hardening and surface

finishing on the site, protection, formwork removal (concerning casting forms, factory-built equipment comes under 69.057, carpentry under 694 and mounting of reinforcement under 693.5)

- 694** **carpentry**, both carpentry and joinery work on the building site, execution of both traditional and modern timber joints and other detail work (complete wooden buildings and questions of dimensioning etc under 624.011, and work operations carried out in the factory under 674 and 69.056)

SERVICES IN BUILDINGS

- 696** **supply services**, in general on plumbing work and sanitary installations inside buildings and outside as far as the scope of the building project, in detail, moreover on special installations and fittings e.g. gas, steam, compressed air and vacuum systems

- 696.1** **plumbing**, (cold) water supply and drainage, sanitary installations both water closets and other types, also roof gutters and downspouts, site drains, sewage disposal systems for individual buildings, latrines, installations for solid refuse collection

- 696.4** **hot water installations**, installations and heaters for the supply of domestic hot water (hot water heating in combined systems moreover under 697.3 and installations intended more for energy storage than for water supply under 697.7)

- 696.6** **electrical installations**, indoors, regardless of voltage or purpose (lighting, heating, also telecommunications etc) but seen from the standpoint of building design and construction

HEATING, VENTILATION AND AIR CONDITIONING

- 697** **climatic control**, in general on heating and on handling of air in buildings, including comprehensive aspects such as choice of systems and principles for energy saving

- 697.1** **design data for heating and insulation**, thermal data and requirements, characteristics of buildings and other internal and external factors which affect the heat balance, appropriate methods of calculation for internal environmental control (meteorological data primarily under 551.5)

- 697.2** **space heating**, the heating of buildings with individual appliances in each heated room: open fires, hearths, stoves, electric heating panels, portable heating devices
- 697.3** **central heating**, in general on central heating including combination systems, and in detail on furnaces, boilers, piping, radiators etc and their dimensioning, also corresponding details for warm air central systems (operational aspects in applicable cases however under 662 combustion engineering)
- 697.34** **district heating**, including heating plants, culverts and supply pipes, distribution centres, consumption metering etc
- 697.4** **circulation in heating systems**, aspects of flow patterns and behaviour, pumping, control and service results of central heating systems using water or other liquids (small and large systems including district heating networks)
- 697.7** **non-conventional heating systems**, alternative, non-traditional means of heating still under development e.g solar and earth heat systems, unconventional energy storage in heating systems, unusual choice of fuels etc (passive principles of orientation of windows etc of solar houses under 721.01)
- 697.8** **chimneys and flues**, (all sizes:) everything connected with the removal of smoke and exhaust gases including spark chambers, dampers, ash collectors, inspection, soot removal etc
- 697.9** **ventilation, air conditioning**, in general the principles of ventilation and air conditioning; also certain specific topics such as emergency and fire ventilation, moreover in detail on industrial moisture and dust control, exhaust hoods, point evacuation
- 697.92** **ventilation specifically**, natural and mechanical ventilation systems in a restricted interpretation, with emphasis upon systems of ventilation in ordinary rooms: basic data, openings, intakes, ducts, valves—their location and size etc
- 697.94** **air conditioning**, combination ventilation systems which achieve greater comfort through the filtering, cooling and moisture control of air in ordinary in-

door environments (in contrast to specific industrial applications etc under 697.9)

697.95 **circulation and movement of air**, air flow in the entire air handling system, especially the resulting flow distribution and circulation of air in rooms; also, the control and trim of fans, outlets, distributors etc to achieve desired ventilation effects

697.97 **temperature conditioning and control**, chiefly from the standpoint of the heating of buildings; the techniques of heating and cooling of and with air, and also heat recycling in air handling systems

PROTECTIVE BUILDING MEASURES

698 **painting etc**, finishing and decorating trades, their types of preparation and sequences of treatments, both ordinary and unusual operations of the painting, glazing and wallpapering trades

699.8 **miscellaneous proofing and insulation**, in general on the techniques available to protect buildings from wind and weather, in detail on tightness and air leaks of the building envelope; also protection against insect attack, violent storms, lightning, radiation, rot and other biological effects, intrusion; design of emergency escape devices, bomb and fallout shelters (in all cases mentioned here, interest is directed to building aspects and not the effects of injuries to people or interference in normal operations)

699.81 **structural fire precautions**, measures undertaken in buildings and works to counteract fire risks e.g choice of materials, separation into compartments through the use of fire walls, fire-resisting doors etc, installations such as sprinklers (fire exit requirements under 351.78, fire ventilation requirements under 697.9 and non-building fire precautions under 614.84)

699.82 **water-proof and damp-proof construction**, damp-proof courses and membranes, the design of structures from the standpoint of moisture control, including the drying out of buildings after completion, special protective coverings (theory mainly under 532 and 533)

699.84 **sound-proof construction etc**, design from the standpoint of acoustics and vibrations: insulation, absorption, other precautions against noise and vibrations,

acoustic improvements, design details to prevent vibrations and shaking, including measures to limit the effects of earthquakes (theory mainly under 534, measures specifically against traffic noise under 625.0)

699.86 **thermal insulation**, design for insulation against heat and cold, also design details intended to counteract thermal movement e.g. expansion joints (theory mainly under 536)

THE ARTS

7 **art and related fields**, activities in which aesthetics are of prime importance (except town planning under 71 . . . and architecture under 72 . . .), arts and crafts, drawing, music, furniture design, industrial and other forms of applied design

PHYSICAL PLANNING

711 **generalities of planning**, in general on physical planning as a sector: theories, principles and comprehensive results, side effects on planning from activities primarily concerned with other questions

711.1 **analyses for planning**, initial surveys, forecasts etc; types of development in general e.g. spontaneous development, controlled and uncontrolled restructuring processes; the physical planning process and its general methods

711.13 **population as planning factor**, density and distribution, migration, urbanization, commuting patterns, resettlement, dispersal

711.14 **land use**, public measures and undertakings in land questions, consideration of soil conditions, land ownership, classification and evaluation of land for development purposes, agricultural land as a community resource

711.16 **planning progress, renewal**, urban renewal and other aspects of physical planning realization i.e. programme stages, district renewal or point rehabilitation, clearance, slum problems, replacement with new types of development, conversion of use e.g. offices in former residential areas

711.2 **regional planning** at all levels from national physical planning including international co-ordination to

structure planning of small areas and minor districts, also matters of individual localization (e.g. of industrial plant) which call for regional considerations

- 711.3** **rural development planning** in a broad sense, to include the general development and transformation of rural and sparsely populated areas
- 711.4** **urban planning**, town planning in the traditional meaning; its adaptation to the specific conditions of various types of urban areas e.g. compact or dispersed, town-like villages, new towns, metropolises; specific circumstances and functions, e.g. coastal and industrial cities
- 711.4.0** **urban environment**, aesthetic and historical aspects of town planning and urban architecture, the built environment seen as an entirety, townscape, the character of an existing environment as a value to be considered in urban rehabilitation and renewal
- 711.5** **urban zoning**, a general classification of urban areas into zones and types of districts, with accompanying legal and administrative steps to enforce a certain measure of differentiation of function between districts
- 711.55** **detailed area planning** of specific urban areas or functional types of districts (other than residential areas), chiefly the products of the final stage of planning: plans, maps, written clarifications and descriptive proposals e.g. for central city areas, districts devoted to administrative, service, industrial, medical, educational, military or recreational purposes (the more permanent forms of recreational housing are assigned to 711.58)
- 711.58** **residential areas**, neighbourhood units with accompanying shops and services of all types: high or low-rise, slum or substantial, permanent or temporary, even mobile units disposed in an orderly way (including descriptive surveys of areas as already existing; the interaction between an area's own activities and its urban environment is often included in such descriptions)
- 711.6** **site planning, grouping**, detailed plans and regulations concerning building dimensions and open spaces, site demarcation, siting of buildings, building heights,

degree of permissible development, particular type of development e.g. high density low-rise, includes also the permissibility of minor complements to an environment regulated by plans

- 711.7** **planning of traffic routes** for road, rail, sea and air traffic; especially the town planning aspect of street and road location
- 711.8** **planning of supply lines**, consideration of all factors when determining the location of power lines, underground utility networks, telephone cables etc; questions of mutual interest for the system networks of various utility sectors e.g. co-ordinated utility mains
- 712** **landscape design**, the aesthetic and functional arrangement and organization of open spaces and vegetation in both a private and a public context, the design of neighbourhood recreational facilities and parks, landscape design in general, fountains, ponds and other outdoor complements
- 719** **preservation of amenities**, natural scenery, historic urban environments, architectural monuments, industrial archaeology, in general on cultural and historical preservation and care related to a particular named area or place

ARCHITECTURE

- 72** **architecture** as a field of activity and physical manifestation
- 72.01** **aesthetics and theory of architecture**, questions related to the experience of architecture and the general character of buildings, architectural aesthetics, perception of the architectural environment, proportion, coloration etc
- 72.025** **preservation and conversion of buildings**, the care, restoration, preservation, conversion, destruction and vandalization of buildings (building-related questions of a purely technical nature are found under 69.059 to 69.059.3)
- 72.03** **architectural history** from the most ancient to modern time, the interrelationship of architectural form with the general development of style (cf 711.4.0 concerning entire ensembles)

- 72.04** **architectural ornamentation**, decoration which is architecturally integrated and not casually applied; both old and new, popular and sophisticated decorative details (cf architectural styles under 72.03, non-constructive decoration and furnishings under 7, domestic interior decoration and home embellishment under 64)
- 72.09** **architectural competitions**, including theme or idea competitions and town planning competitions (not however bids and tenders where competition involves contract offers or building methods)
- 721** **buildings generally**, buildings as objects (as distinguished from other objects in the building and construction sector, e g bridges), not specified by functions except as far as common to several types of buildings; also such that can be said to represent buildings prior to construction, e g models, spatial requirement programmes etc
- 721.01** **general design of buildings**, especially the fundamental architectural idea of a building, with emphasis upon a few prominent features of an entire building project, e g layout on the site, the number of stories and the structure of their plans, architectural form, co-ordination of dimensions, modular adaptation etc (the more outstanding cases tend to become collected here, to distinguish them from "normal, ordinary buildings")
- 721.05** **design of spaces and rooms**, architectural design from the viewpoint of function, the adaptation of rooms, spaces, fixtures etc for specific purposes or functions, with suitable layout and dimensions (rooms and spaces in dwellings under 643)

TYPES OF BUILDINGS BY FUNCTION

- 725** **public buildings**, e g for public administration, town halls and courthouses, buildings for the postal and telephone services, police stations and prisons, buildings for military use; moreover the architectural aspects of works and installations such as power stations, water works, bridges, monuments etc
- 725.2** **commercial buildings, office buildings**, office-type buildings in general, banks, shops and customer service premises from the small corner shop to the huge department store, covered commercial passageways

(composite types may be assigned to more than one heading e.g housing located in the same building as commercial enterprises)

- 725.3** **buildings for transport, traffic, storage**, railway, bus and air terminals; refrigerated storage plant, silos, harbour magazines, car-park buildings, service workshops (home garages are considered to be housing complements and are assigned to 728)
- 725.4** **industrial buildings**, in general on industrial buildings, factory plant and workshop structures (industrial storage buildings belong to 725.3, buildings regarded solely as envelopes for industrial processes belong to the 6 . . . headings for various industries)
- 725.5** **hospitals, welfare buildings**, includes three characteristic groups: (a) hospitals and clinics including mental hospitals and veterinary hospitals, (b) homes for the aged, invalid, convalescent etc who require care and attention, (c) child-care homes, day-nurseries etc intended for healthy children
- 725.7** **restaurants, baths**, all types of premises where the public is served, including cafes, pubs and the like (kitchens however under 643); baths both public and private, swimming pools, sauna baths (a common characteristic of this group of premises is the need for special adaptation of building services)
- 725.8** **buildings for public entertainment and recreation** intended for specific visual and acoustic emphasis: theatres, concert halls, cinemas, auditoriums, conference halls etc; other buildings for recreation and sport: ice skating rinks, sports arenas, tennis halls etc; also other facilities without real buildings: riding paths, marinas, shooting ranges, running tracks, playing fields etc
- 726** **ecclesiastical and funerary architecture**, all sacral architecture including non-christian e.g churches, mosques; also building complexes connected to or owned by religious organizations e.g rectories, monasteries; architecture of burial grounds including monuments and crematories
- 727** **schools, educational buildings**, all levels from primary schools to universities, all types of educational pursuits including vocational training centres and their

workshops (pre-school facilities can be regarded as day-care centres under 725.5 and laboratories can be assigned to 727.5)

727.5 **buildings for science and art** (this heading serves for 727.5/.9 in order to restrict 727 above to schools:) laboratories, museums and other similar premises, art galleries, archives, libraries, recording and broadcasting studios, observatories and other premises for science

RESIDENTIAL BUILDINGS

- 728** **housing in general** except technical detail, the housing sector as opposed to all other types of buildings (everything to do with housing policy, however, under 351.77), also at the detailed level certain types associated with special circumstances e g housing of an historic nature, manor houses, farm houses, huts etc including the outbuildings and complements of normal housing e g garages, storage sheds
- 728.1** **design of housing**, indoor housing environment, housing architecture in general for the following 728 . . . headings, especially design and function questions common to single and multi-family housing (matters related to domestic furnishings however fall under 64 and 643)
- 728.2** **multi-family housing**, buildings with three or more dwelling units, for all forms of ownership and tenancy: lease, rental, free-hold etc
- 728.3** **single-family housing**, fully detached and semi-detached houses, terrace (row) houses etc with individual outside entrances at ground level for each dwelling unit (for uncertain cases, e g rental terrace housing, stress is upon type of tenancy rather than upon the presence of individual entrances)
- 728.5** **hotels etc**, including inns, holiday colonies, youth camps etc (dining halls under 725.7, institutional kitchens under 643, conference premises under 725.8 and boarding houses mostly under 728.2)
- 728.7** **occasional and mobile dwellings**, holiday cabins etc for family or similar use but not permanently inhabited, including mobile homes such as houseboats, caravans etc (tourist tents under 79, nomadic housing under 728)

OTHER SUBJECTS

- 74** **drawing, graphic representation**, draughtsmanship, draughting instruments, drawing standards, practical handling of drawings, perspective drawing, computer-aided drawing
- 77** **photography**, photographic methods, filming, photogrammetrics and related techniques (ordinary office copying under 65)
- 79** **sports, games etc**, recreation, amusement and leisure activities, physical exercise from children's play to adult sport, including motor racing etc as far as requiring permanent facilities, with emphasis on spatial and functional requirements
- 80** **language**, including dictionaries, lexicons, word-lists and rules of writing (the concept of 'language' here applies to documents where language is treated as a subject, not to documents having a particular linguistic form e g being an exotic text or a translation)
- (Fiction and other UDC 8 subjects can, in a building context, be regarded as marginal and assigned to 0, 08 or 9)
- 9** **history, geography**, ancient monuments, cultural geography, general descriptions of specific towns and places, travel literature and guides, maps and atlases of a general nature, biographies, history i e analyses and commentaries of past events

Auxiliary headings

POINT OF VIEW (ASPECTS CODES)

Note on form of code: In the original UDC notation, a principal subject such as 656 **transport** and a general point of view such as .003 **economic point of view** are written together to form one concept 656.003 **transport economy**. This means using a method of pre-coordinate classification.

In manual systems this pre-coordinate principle can be applied also to the RUDC by joining the preceding 250 subject codes with the following 50 aspect codes. However, the alternative of writing codes separate and using a post-coordinate system is here assumed to be the main alternative. In order to visually keep codes such as 003 and .003 distinctly separate, the sign x has been added to the following twenty-five codes which represent point of view. If the post-coordinate alternative is applied, the first example above will be written 656 and x.003 meaning **transport AND economic point of view**.

- x.001.1** **programme and proposal aspect**, activities of an investigatory and preparatory nature, questions at the stage of programmes, outlines, drafts, proposals (it is superfluous to indicate this aspect together with codes 711... for subjects of physical planning and also with other design-oriented subjects where problems mostly belong to the planning stage)

- x.001.2** **execution planning**, schedules of time and resources, studies of how the realization of projects can be carried out

- x.001.24** **calculations**, methods and examples of calculations (it is superfluous to indicate this aspect for subjects which typically involve calculations, but it is a useful indication for subjects where only a minor part of their literature contains formulas and numerical analyses)

- x.001.5** **research**, scientific and technical investigations and experiments (whenever the studies are characterized

by a particular method of research they are assigned to one of the following more specific headings)

- x.001.53** **laboratory research**, investigations where the objects studied do not act in a fully natural environment but in a laboratory or some other artificial environment
- x.001.55** **field research**, trials where the material remains in its natural surroundings, studies of phenomena in their ordinary context (regardless of method of observation, here interpreted to include also field investigations of less technical kinds such as interviews and surveys by questionnaires)
- x.001.57** **model tests using physical models**, experiments not upon the real object of the studies but upon a substitute which in smaller size or cheaper material or simpler workmanship represents the concerned object (such experiments, even when in full scale, are usually carried out in laboratories so this aspect of laboratory research need not be separately noted)
- x.001.573** **model tests using mathematical models**, simulations, calculations used as experiments, operating sequences of mathematical, electronic or other analogous models and studying the results (the initial design of abstract models may be classified as part of the theory of the subject area to which the model belongs)
- x.001.6** **development, research applications**, elaboration for practical application of research results, often by pilot projects (research and development may be viewed together here under a single heading or divided into stages so that basic scientific experiments fall under x.001.5 and only further more practical experiments under x.001.6 while experimental projects mainly for demonstration to users belong to 659)
- x.001.63** **design** in the sense of making drawings and specifications for a building project or other important work (the aspect to be expressed here is the design work itself and not the project requirements and data worked upon by the designer, cf x.001.1 general preparation of proposals and 721.01 and 721.05 architectural layout of buildings and spaces)
- x.002** **methods of execution**, production procedures, here focussed on the building sector and on construction methods at the site, especially new methods which are important to make known

- x.002.51** **production plant and machines**, main plant at factories and building sites, construction machines and related heavy equipment
- x.002.54** **tools and implements**, hand tools, powered tools, various auxiliary equipment used in production (see next heading concerning exceptions)
- x.002.56** **instruments, precision equipment**, fine mechanisms used in production or for tests and measurements (experimental contrivances for non-routine measuring are preferably assigned to 53.08, automatic devices for recording etc to 62—05 and household appliances to 64 while the heading 69.057 for industrialized building covers general aids at the construction site)
- x.002.6** **product aspect**, the usefulness of some particular kind of material resource, the range of products that can be obtained from a specific material or from by-products and waste (non-material cases of recycling do not belong here e g recycling of energy which is regarded as a kind of economic saving aspect under x.003.1)
- x.003** **general economic aspect**, economic, financial, commercial point of view applied as one of several aspects of a subject (when the principal subject belongs to a branch of economy one should look for some subject heading which can be used directly, such as 330 political economy, 339 commerce, 657 accounts, 658 business management)
- x.003.1** **saving-oriented economic aspect**, economic point of view in the sense of reducing demands, saving, recycling, not spending more than seems fully justified by returns
- x.003.12** **cost figures, data for estimates**, usually numerical data providing specific information for estimates, primarily costs but also quantities, capacities, consumption data, records of distribution by percentage etc (methods of calculation under 657; interest, tax and duty rates under 336; price movements and their causes under 338)
- x.003.2** **finance and contract aspect**, especially how to finance projects and regulate project spending by means of tenders and contracts etc (when seen more from the bidder's and contractor's side as a matter of conti-

nuous business management this is a principal subject under 658 rather than an aspect only)

- x.004** **use and operation aspect**, matters related to the period of use and operation, being either performance requirements in advance or experience acquired later recorded as feedback information, also instructions, recommendations etc for operation and maintenance (combined with 332 this aspect expresses real estate management, cf 64 ordinary household-type cleaning and maintenance and 69.059 special maintenance operations comparable to building works)
- x.004.12** **properties, characteristics**, comprehensive or precise descriptions of characteristics e.g technical data, lists of advantages and disadvantages (descriptions both with and without value judgements are included here, the form-of-document code (083.1) which means recommendations and advice can be used as a complement to distinguish value judgements from "neutral" statements)
- x.004.6** **damage and repair**, the damage aspect when not otherwise classified: normal damage and repair of buildings due to ordinary deterioration and mistakes of construction is covered by 620.19 at the materials level and by 69.059.2 at the structures level; therefore this extra damage aspect should be reserved for disasters and unusual cases and also for non-building cases such as damage to equipment and installations
- x.007** **personnel aspect**, the number, training, competence requirements, roles etc of the personnel concerned with any one subject area (cf 331 generalities of labour and 658 staff matters of enterprises)
- x.008** **organization aspect**, internal questions of division into sections and branches, co-ordination, centralization, decentralization, vertical or horizontal structure, decision-making, supervision and similar (business organization as a principal subject falls under 65 and organizations described as units and seen as individuals are found under 06)
- x.009** **relationships**, questions of a social and ethical nature regarding external relationships with entities outside the unit on which attention is focussed; relationships with regard to services received and rendered, co-operation and competition and even corruption, obliga-

tions towards authorities as well as customers etc (the social network developed by families and individual persons is covered by 30 and should not be repeated here)

SOME FORMS OF DOCUMENTS

- (0.062)** **presentations for general readers**, documents not intended for the professionals and officials of a subject area but for the wider circle of persons who are interested for more general reasons: as citizens, amateurs, home owners etc (such documents need not always employ a very "popular style" of presentation, but they give more explanations of the elementary parts of a subject and take less advance knowledge for granted, compared with literature for professionals)
- (03)** **reference works**, the category of broad and structured works and multi-subject handbooks, as distinguished from (083.1) advisory literature within narrower subjects and (083.8) directories etc where rather uniform items are listed in a simple numerical or alphabetical order
- (07)** **educational works**, classified as such whenever they are suitable as study material although they may not always be designated as textbooks by the author or publisher (characteristic of an educational document is that it includes also the fundamental parts of a subject which much of the other professional literature leaves out and takes as already known)
- (083.1)** **advice, guidelines**, such literature which seeks to distinguish what is suitable and advantageous and make it stand out from what is unsuitable; documents of this category may appear in a variety of forms, such as manuals, instructions, check lists, recommendations, rules, advisory digests, journal articles describing practical experiences etc
- (083.7)** **co-ordinating documents**, standards, codes of practice, model specifications, forms of contract, schemes for quality sorting, sets of conditions adopted by branch organizations etc; documents not being universally enforceable but made for the purpose to have a normative and co-ordinating function when included into agreements

- (083.8)** **lists**, address and membership directories, market directories, product reviews, collective product catalogues of products from several suppliers, various other lists where items are enumerated and treated in a more or less uniform manner
- (084)** **pictorial works**, documents containing important illustrations or other outstanding graphic presentations such as type drawings or good maps; this category becomes more useful for selection of documents during a search if judgement during classification is adjusted to each subject e g concerning architectural literature that ordinary photos or drawings are taken for granted and only the particularly well illustrated architectural works are classified as pictorial
- (085)** **publications of firms**, advertising material, product catalogues etc published for apparent commercial reasons by a manufacturer or seller of products or services; classification will become more consistent if journal articles, branch propaganda and other indirect and less apparent cases of advertising are left out from this category
- (094)** **laws**, texts and commentaries of laws, that is rules made at a primary level and enforced through the system of legal procedures and punishments
- (094.7)** **regulations**, texts and commentaries of rules at a secondary level, that is rules issued mostly by specialized or local authorities and enforced mainly in administrative ways e g when granting permits, loans, licences etc

SOME CATEGORIES OF PLACE

- (1—21)** **urban areas**, urban aspect in some context other than regular physical planning (not used together with subject codes 711.4 through 711.6 which are normally taken to imply urban circumstances so that special indication of the urban aspect is superfluous)
- (1—22)** **rural areas**, rural aspect in some context other than physical planning (not used together with 711.3 which always deals with rural conditions)
- (1—77)** **developing countries**, aspect of geographical area by level of development, including all levels but with problems of less developed countries dominating such

literature that is written from the development point of view

- (100) **international**, several countries or the whole world involved so that a mixed national or equalized international effect results
- (211) **cold areas**, polar zones, permafrost areas, countries which have problems with severe winter climate (combined with 69.03 'construction under special circumstances' the problems of winter construction also outside the polar zones can be included)
- (213) **warm areas**, tropic and subtropic zones, countries which have problems with hot climate
- (24) **underground**, position inside rock or below the surface of the ground of some cavity or of some construction or object for which the underground position is not worthy and not a matter of course (foundations, tunnels etc are thus not included here)
- (26) **at sea**, especially offshore positions for structures of the oil industry as well as of other floating or submerged structures, and also any sea as a geographical area e g when crossed by a bridge or tunnel

ASPECT OF PLACE BY GEOGRAPHICAL DIVISIONS

Only codes of whole continents are listed here. When information systems contain much about neighbouring countries and little about distant countries, the home continent can be subdivided by selecting codes from the full UDC tables. It is recommended to leave out code series (3) which specifies ancient countries and to distribute descriptions of ancient buildings according to how the world is divided into countries in our time.

- (4) **Europe**
- (5) **Asia**
- (6) **Africa**
- (7) **North and Central America**
- (8) **South America**
- (9) **Australasia, Oceania, Polar regions**

ONE CATEGORY OF TIME

- '313' **future time**, future as not yet really known, starting beyond the short-time projections and forecasts on which decision-makers are prepared to act and which can be classified as x.001.1 or x.001.2 that is programming and planning aspects

BYGGDOK

The Swedish Institute of Building Documentation is the central national body providing information and documentation services on Building construction, architecture, regional and urban planning, civil engineering, building services and environmental topics related to building.

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