

The Academy Today

The old Danish name of the Academy is *Det Kongelige Danske Videnskabernes Selskab*, originally translated into Latin as *Societas Regia Hafniensis bonis artibus promovendis dedita*, but now on the Academy's seal, and on printed matter destined for abroad, another Latin designation is used: *Regia Academia Scientiarum Danica*. The first academy was founded in the 4th century B.C., when the Greek philosopher Plato gathered his disciples together for discussions in Akademeia, the grove of the Attic hero Akademos, outside Athens. Since then this name has been associated with inter-disciplinary gatherings of scientists and scholars. Such academies have often played an important part in the development of human society, and it is still their purpose to foster to this aim. By comprising, in principle, all basic sciences, academies normally dispose of a very great body of learning which they make available to international research and to the individual nation.

When new members are to be admitted to the Royal Danish Academy of Sciences and Letters, proposals are first made verbally, then submitted in writing, and later thoroughly discussed at several meetings. The members admitted after this procedure are such scholars whose abilities and activities hitherto allow the assumption that they will work for the objectives of the Academy. It is important to realise that this institution was

founded at a time when the situation of the university was about to change, and that it was to act as a kind of consultative organ, besides which, to a certain extent, the usefulness of research projects was to be taken into account – all of which is reminiscent of the situation today. The Academy has naturally sought, in the course of time, to adapt itself to changing circumstances, but in the main its objectives have remained the same, as expressed in the recently revised Article 1 of the statutes according to which the Academy “has as its purpose the strengthening of the position of scholarship in Denmark, particularly that of basic research, and of promoting inter-disciplinary understanding. These objectives are to be achieved especially by holding meetings and issuing publications, through international collaboration, and by consultative activities”.

The Academy has two divisions or “classes” – one for the humanities (earlier termed “history and philosophy”) and one for the natural sciences (“mathematics and natural sciences”). At the present time (May 1980) the following subjects are represented in the class for the humanities, which comprises 75 native and 99 foreign members (the numbers in brackets give first the Danish and then the foreign members): history (10, 20), archaeology (5, 13), art history (2,2), ethnology (1,5), comparative religion (1,1), musicology (4,3), philology and literary history (28,48), jurisprudence and political science (4,0), economics (4,4), philosophy and psychology (3,5). In the class of natural sciences the distribution is 110 native members and 180 from abroad, embracing the following sub-

jects: mathematics (12,22), physics (21,22), chemistry (16,30), astronomy (6,7), earth sciences (14,15), botany (6,13), zoology (8,7), biology (15,36), physiology, anatomy and medicine (16,28), history of science (1,1).

Heading the Academy is the president, elected for a four-year term and assisted by a council, which comprises, in addition to the president, the immediately preceding president, the chairmen of the two classes, who are the vice-presidents, the secretary, the editor, the treasurer, the chairman of the financial committee and the chairman of the committee for external activities in Denmark. The Academy meets fortnightly from October to May, usually on Thursdays. At these meetings one or two members present the results of their most recent research in the form of a lecture, and in advance of the publication of their results. After the lectures information is given on research collaboration and on the work of the different commissions and committees set up by the Academy to deal with particularly pressing scientific matters. Class meetings are held after the general meetings should there be any matters of particular interest to the class for discussion.

The regular publications of the Academy are issued in five series, two for the humanities (*Historisk-filosofiske Meddelelser*, *Historisk-filosofiske Skrifter*), distinguishable by their different formats, one for mathematics and physics (*Matematisk-fysiske Meddelelser*) and one for biology (*Biologiske Skrifter*), and a yearbook, the so-called *Oversigt over Selskabets virksomhed* (Report on the activities of the Academy), which contains a list of members, offi-

cial and commissions, obituaries of recently deceased Danish members and reports on work carried out during the year under review. One does not need to be member of the Academy to submit a paper and request its publication. If, after very careful scrutiny, the Academy finds it suitable for inclusion in one of its series, the work will be accepted and published and, in the same way as members' own papers, it will be sent to the some 837 institutions with which the Academy maintains exchange agreements; in this way such a paper becomes known over most of the world. In return the Academy annually receives, via exchange agreements, some 8000 publications which, after registration and display, are handed over to the libraries of Danish state institutions. The normal publishing activities of the Academy, including the exchange of publications, are thus of great importance: for a number of countries, particularly in the east, it is usually only possible to receive such scientific publications through the Academy, as exchange agreements are arranged at academy level.

Recently the Academy has initiated the publication of a special series of small booklets intended for the Danish public. Compared with applied research, the public usefulness, as it was called in the 18th century, or social relevance, as it is called today, of basic research is probably rather more difficult to evaluate. The Academy therefore felt that one of the first things that should be done after the improvement of its premises (provided by the Carlsberg Foundation on the occasion of its centenary in 1976) was to open its doors to the

public and to provide all interested parties with information on basic science in a series of lectures on a popular level. These lectures are presently printed in small booklets of which a total of 30 is planned.

International collaboration not only covers the exchange of publications but also the organisation of congresses and other scientific meetings at which research experience is exchanged and new methods and projects discussed. Furthermore it involves publishing the results of vast co-operative enterprises, particularly those monumental series whose demands with regard to manpower, specialist knowledge and finances quite exceed the capacity of any individual country. Such supranational scientific projects are organised in a number of unions and associations of which *L'Union Académique Internationale* for the humanities and the *International Council of Scientific Unions* for the sciences are the most important. Together with the various Danish state research councils, which give grants to the Academy for this purpose, and with the Danish institutions engaged in the work in question, the Academy sets up national committees or commissions that organise and follow local work in Denmark and provide the link with the unions and associations at whose meetings the Academy's delegates represent Denmark. The national committees and commissions for the humanities chiefly concern Denmark's participation in international publishing projects; at the present time there are 12 such works in progress, of which five have to date been directed from Denmark. These are: the universal lexicon of Medieval Latin

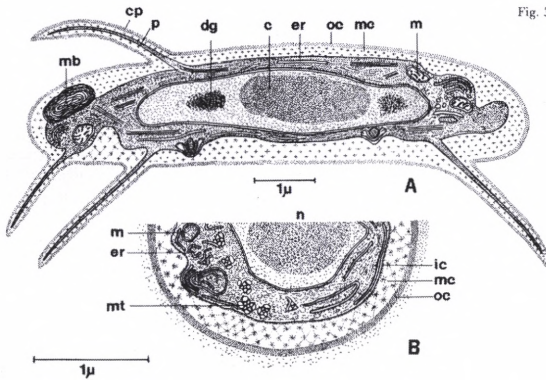


Fig. 3.

Diagram of spermatozoa of *Daphnia longispina* O. F. Müller.

A. longitudinal section.
B. cross section.

Legends: c = carysome-like body, cp = extracellular coat on pseudopodium, dg = clump of dark granules in nucleus, er = endoplasmic reticulum, ic = inner layer of extracellular coat, m = mitochondria, mb = myelin body, mc = middle layer of extracellular coat, mt = microtubules, surrounded in a stellate fashion by unknown tubules, n = nucleus, oc = outer layer of extracellular coat, p = pseudopodium.

although not dominating, and in some cases a myelin-like lamellated body was seen. The mitochondria have a dark matrix and distinct, somewhat dilated, cristae. The ground plasma in the cell is fairly dark, somewhat granular and the plasma membrane is simple and uncomplicated.

Spermatogenesis is of the cystic type (Fig. 2A). Each cyst contains ten or more spermatids. There is no recognizable change of size during maturation, and the young spermatids differ from mature spermatozoa mainly in their darker plasma, which contains numerous ribosomes.

Comments on the spermatozoa of Holopedium. Spermatozoan structure and spermatogenesis in *Holopedium* are hardly distinguishable from those of euphyllipods. As, e.g., in Anostraca the spermatozoa are simple, amoeba-like cells and are formed in typical cysts in the testicular wall. There is no increase in size during maturation of spermatids as in the Sididae and the Onychopoda, nor is there any reduction in size as in most Anomopoda.

Genus *Daphnia*

Material

- Daphnia (Ctenodaphnia) magna* Straus. Emdrup Sø, Copenhagen, 21. VIII. 72 and 20. IX. 72, ♂♂, 1 % Os. - Ottenby, Ö1, Sweden, 4. X. 74, ♂♂, 3-A. - Sebha Zima, Morocco, 12. IV. 77, ♂♂, 3-A. (coll. Å. Jespersen).
- D. (Ctenodaphnia) atkinsoni* Baird. Laboratory culture of sand from Gush Etzion, Israel, collected 11. VI. 73 (Coll. Ch. Dimentman), ♂♂, 2 % Os.
- D. (Ctenodaphnia) lumholzi* G. O. Sars. Marrakech, Morocco, 29. XII. 76, ♂♂, 3-A (coll. Å. Jespersen and J. Lützen).
- D. (Daphnia) curvirostris* Eylmann. Seborg, Copenhagen, 26. IX. 74, ♂♂, 2 % Os, 3-A.
- D. (Daphnia) longispina* Q. F. Müll. Seborg Mose, Copenhagen, 18. X. 72, ♂♂, 1 % Os.
- D. (Daphnia) galeata* Sars. Lyngby Sø, Zealand, 19. X. 72 and 19. XI. 72, ♂♂, 1 % Os.
- D. (Daphnia) cucullata* Sars. Lyngby Sø, Zealand, 12. X. 73, ♂♂, 3-A.

The tubular testicles of the *Daphnia* species, lying on each side of the intestine, have thick walls consisting mainly of the very large, vegetative cells ("cellules géantes", Delavault & Gerard

(*Novum Glossarium Mediae Latinitatis*), the publication of Byzantine music manuscripts (*Monumenta Musicae Byzantinae*), a lexicon of the Indian language Pāli, so important for an understanding of Buddhism (*A Critical Pāli Dictionary*), a complete edition of the works of the Greek lexicographers (*Corpus Lexicographorum Graecorum*), and an Old Russian – Low German Manual (see above p. 35). A special commission directs research on the history of agricultural implements and field structure, while two commissions deal with matters wholly relating to Denmark: investigation and registration of the sources of Danish history in private Danish ownership, and work on research areas in Denmark. The class for sciences also participates in the last named project. The scientific national committees represent, in particular, the large international unions for astronomy, biophysics, biochemistry, biological sciences, physics, physiology, geodesy and geophysics, geography, geology, chemistry, mathematics, medicine, oceanography, space research, etc. In addition to native members, other specialists may be elected to sit on some of the commissions and national committees; in commissions under the class for the humanities these groups make up a total of 35 persons (9 non-members), and under the class for the sciences, a total of 193 persons (139 non-members).

A few words should be said about the finances of the Academy. In addition to the funds provided by the research councils for international collaboration, as mentioned above, the Academy receives a government grant, hitherto mainly intended for its

DET KONGELIGE DANSKE VIDENSKABERNES SELSKABS PJECE SERIE
GRUNDVIDENSKABEN I DAG

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C. MØLLER

OMVÆLTNINGER I FYSIKERNES
TANKESÆT I VORT ÅRHUNDREDE

UDGIVET I SAMARBEJDE MED FOLKEUNIVERSITETETS BIBLIOTEK
AF FOLKEUNIVERSITETET I KØBENHAVN

1977

Cover of the fourth booklet in the series Grundvidenskab i dag (Basic science to-day): C. MØLLER, Omvæltninger i fysikernes tankesæt i vort århundrede (Upheavals in physicists' ways of thinking during the present century), 1977.

publishing activities, and another larger grant from the Carlsberg Foundation for publications, operating expenses, etc. In addition, the Academy has at its disposal some capital and a number of endowments. The generosity of its members has recently manifested itself in the setting up of a Members' Contribution Fund, which can assist with the operating expenses of the Academy, particularly those associated with its meetings.

Some of the Academy's resources make it possible to reward scholars. The gold medal of the Academy is awarded for very special, often life-long efforts. The silver medal, which carries a monetary prize (see ref. p. 64), and a few other grants are awarded to younger research workers of promise. Moreover, on the nomination of the Carlsberg Foundation, the Academy elects the occupant of the honorary residence at Old Carlsberg in the suburb of Valby. In addition, the Academy disposes of two other free residences: Lunde have in Elsinore and Knud Sand's villa in Gentofte, north of Copenhagen.

The improved premises have greatly increased the potential of the Academy. The number of members has been increased, and it has been possible to admit more of the younger Danish research workers. The administrative staff enjoy satisfactory working conditions, a reference library has been enlarged, an archive reading-room has been out-fitted, and the Academy now has four rooms which may be assigned to members for special research projects. As formerly, the old assembly hall may be used for special meetings – e.g., the *Alfred Benzon Foundation* holds its international

betvā, Vin I 276,16; ~āhi parimassasāmi ti pīthi-kaṅkajāka yeva parigūhāmi . . . , = pīthi-kaṅkajāka allinā hoti, M I 89,25 = 81,21 = 246,5 (Ps II 50,19 foll.; cf. Sv 993,3).

udara-jivhā-maṁsa, n., "the flesh of the stomach's tongue"; description of the spleen: pihakan ti ~āri, Vism 257,22 (jivhā-saṅghānāni udarassa mathaka-passe tījhanaka-maṁsam, mht S^o II 29,7).

ud-arati, pr. 3 sg. [sa. ud + r | t], to go upwards; Abh-t P^o 193,15 (in "etym." of udara Abh271).

udara-dūta, m., an "envoy of the stomach"; ahañi tapbhāya dūta ~o, Ja II 320,3.

udara-nissita-jivvika, mfn., lining only to satisfy the stomach; ~ā udara-pūra-helu vā, Ja VI 210,17' ad 208,8' odariya.

udar'antara, n. 1. the interval between the belly (and the ground); sigālo sīhassa ~āni pavisitvā ("got underneath the lion"), Ja II 27,2. **2.** the interior of the belly, hollow of the stomach; vīvarahā nāma . . . ~āni kaṅṅ'antarā, Vism 185,10 (nābhī-tṭhāna-saṅghātanā kucchi-vejjāhāni udarassa vā abhantarā, mht S^o I 306,19); (tīmitimānāni) dant'antare pi ~e pi cippiyānāni vākaṇi sādāyeyya, Mil 262,4.

udara-paṭala, n. (cf. s. Bu). "the coats of the stomach" (trsl. NYĀYATILAKA: "Magensack"), i. e. the stomach (digestive organ); manussāni hi mahantaṇi parissāvāna-mattañ ~āni hoti, Ps III 139,14; (pīṇḍapāto) eka-rattī-vasena ~e pacitvā, 50,8; (embryo) tassa hi nābhito uttubhita-nālo (umbilical cord) mātu ~ena ekābhaddho hoti, Spk I 301,20; (ordinary embryos in womb) ~āni pīthito katvā . . . nisidanti, Ps IV 181,23; ayañ satto mātu kucchimhi . . . ~pīthi-kaṅkajānāni vema)jhe adhimatta-jogucchā kucchipāse . . . nibbatanti, Vism 500,5; (spleen) hadayassa vāma-passe ~assa mathaka-passani nissīyā thīrañ, 257,25 = Pj I 55,26; semhāni . . . ~e thīrañ, Vism 261,4 = 359,22 = Pj I 61,22 = Vibh-a 65,18 = 244,10 ≠ Pj II 248,27; (udariyañ) ~ena ceva udariya-bhāgena ca paricchinnā, Vism 259,27 = Vibh-a 242,32; kammajā-tejo uttuhāitvā ~āni gaṇhāti, "chāto 'smi, āhārañ me delhā" ti vacāpeti, bhuttakāle ~am muhētva vattum gaṇhāti, As 330,26; — = uteras? tassa (woman on funeral pyre) aggī-vegasantattāni ~āni dvedhā abhosi, ānāko . . . uppattitvā . . . , Mp I 274,10 = Th-a 143,12.

udara-pariyosāna, mfn., ending with the belly; (sarirañ) ~āni atrekañ uddhumātakañ hoti, Vism 185,26 (~āni) uparima-sarirañ, mht S^o I 301,9; hattha-pāda-nābhī-~āni (the limbs: hands, feet, navel, lastly the belly), Ja I 148,12.

udara-pāda, m., whose feet are the belly, i. e. a snake; pād'ōdare (Sn 604) ti ~e, udarañ yeva yesaṇi pāda, Ps III 434,15 (M No. 98).

udara-pūra, l. mfn., filled with the udara; (kāyo) anā-pūro ~o yakapalassa . . . "filled with bowels, stomach, liver . . ." (udara here replacing, i. e.?, udariya (gorge) of the list of 32 impure constituents of the body, cf. udariya; Pj II 247,25; udarassa pūro ~o, udaran ti udariyass' etañ adhivacanāni, tañ hi thāna-nāmena udaran ti vuttāni); — **2. mfn. and subst. m.**, filling the stomach; a) udj.: eka-divasam pi ~āni āhārañ na labhi, . . . gabbha-malañ ~āni labhi, . . . sunakho . . . bhatta-vamanāñ ~āni labhi, . . .

tena ~o āhāro nāma na laddha-pubbho, Ja I 238,23-26; udj.: udarāvadehakañ ti ~āni, Sv 1031,15; udarāvadehakañ bhutvā ti . . . ~āni bhūñjitvā, Th-a III 78,25; — b) subst. yāvad-atthāni ~āni katvā paribhūñji, Ja I 236,16; yañi kīñcī eva kevalāni ~mattañi vat-tati, Vism 108,19; ~hetu, Ja VI 210,18'.

udara-maṁsa, n., the flesh of the belly; ~āni (of dead body) . . . khādiyānāni (by crows etc.), Sv 772,5 = Ps I 273,21 = Mp III 359,11.

udara-vatti, f. [sa. -vatti], the circumference of the abdomen, a round (or swelling) belly; ehi, bhante, . . . ~iyā ghattēhi, Vin III 39,22; bhikkhuno jantā-gāre ~iñi tāpetassa (asuci mucco), 117,27; ~maṁsañ, Vism 262,21 = Vibh-a 245,24.

udara-vāta, n., the wind (one of the three dosas or humours) in the belly whose "irritation" causes discomfort; theriyā ~o kuppi, M II 392,24 = 433,5; ~o kupito, 393,11; ~o vūpassami, 393,21; ~o patipassa-sambhi, 433,9; — tāthāgassa ~o uppajji . . . satthā gilāno . . . ko ābādhō ? ~o, Mp I 304, 20-22; tassa . . . ~o samuttāhi, . . . kīñ te rujati ? ~o me samuttāhi, Dh-pa IV 129,16; — ~ābādha, m., satthu ~e uppāsse, Th-a II 87,24 (e. l. vātābāhe); atekiccho ~o abhosi, Ras II 8,27.

udarāvadehakañ, ind. (see avadehakañ), so as to overfill the stomach; yāvud-atthāni ~āni bhūñjitvā, D III 238,23; M I 102,2; A III 222,25; 249,26; IV 343, 13,21; V 18,23; Vibh 378,1; Th-a I 190,19 ≠ Spk II 107,9 ≠ Vism 33,25 (cf. s. ~āni ti udara-pārañ, tañ hi udarañ avadehanañ ~an ti vuccati, Sv 1031,15 = Ps II 69,7 = Mp III 325,27 = Vibh-a 504,22; udarañ avaditvā upacimitvā pārelvā, Mp III 307,18); ~āni bhutvā, Th 935.

udarini, f. [s. udariya], pregnant; Pds-t 89,2.

udariya, n. [sa. udariya], "what is in the udara", contents of the stomach; Rūp 363; Mogg IV 26 (mfn.); udare bhavañ ~āni, Sadd 790,2; ~āni udare thīrañ asita-pīla-khāyita-sūyitañ, Bu (Vism 258,23 = 358,27 = Vibh-a 62,28 = 241,32); — in stock list of 32 impure constituents of the body; atthi imasmiñ kāye kesā lomā . . . antañ anta-gaṇañ ~āni karirañ . . . muttāni . . . , Khp III; D II 293,16; III 104,26; 105,10; M I 57,19,30; 185,19; 421,31; III 90,17,29; 240,23; S IV 111,20; A III 323,25; V 109,24; Patis I 7,1; Vibh 82,12; 193,22; 194,7,26; Mil 26,10; Nett 74,2; 77,29; Vism 240 foll.; cf. s. Pj I 57,21 = Vism 258,23 = Vibh-a 241,22; Vism 358,27 = Vibh-a 62,28; Patis-a 81,22; — Vism 366,3; 588,19; Vism-mht S^o 105,18; — ~bhāga, m., the room, space, region, place of the gorge; (udariyañ) pariccheto udara-pātena ceva ~ena ca paricchinnā, Vism 259,27 = Vibh-a 243,1 ≠ Pj I 59,11.

udariya in sa^o, saha^o, so^o [sa. sodariya "co-uterine brother"] qq. p.

uda-vattha, n., a water-garment, i. g. udaka-sālikā g. n. ? ~āni (e. l. ura-v^o) tāhā vassika-sājakāñ, Ap 303,24.

uda-vaho Ja VI 543,7' w. r. for C^oB^o udaka-vāho].

uda-sudda, m., the word uda (water); ~en'eva udak'attho vutto . . . pājjāni kevalo ~o na dīttā-pubbho, Sadd 237,15-20.

uda-su, dn., the particles uda and su; ~ā ti

biological symposia there. Moreover, the development of the top storey has provided yet another auditorium with all modern facilities where public lectures as well as large professional meetings and symposia can be held.

The old premises contain a number of works of art and historic furnishings from earlier times, of particular interest are portraits of the founders of the Academy, of its officials and other Danish scholars, as well as traditional Danish furniture. The old assembly hall is graced by P. S. KRØYER's famous picture of a meeting of the Academy, painted in the years 1895–1898, and with a ceiling painting, by KRÆSTEN IVERSEN, depicting the myth of Prometheus, painted in 1925–1926. Hanging in the new lecture hall is RICHARD MORTENSEN's picture "Glæde over sejren i Østen" (Joy at the victory in the East), painted in 1975, which is on loan from the Carlsberg Foundation. Furthermore, the New Carlsberg Foundation and the Museum of National History at Frederiksborg have provided the Academy with several works of art on loan.

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