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The Hospital as a boundary Institution

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Finn Borum: The Hospital as a boundary Institution[1]

Introduction

The hospital is a central societal institution that has developed over a millennium as described in contemporary sources such as Den Store Danske Encyklopædi [the Danish national encyclopedia]:

Hospitals
(Cf. latin Hospitalis "hospitable" of hospes "guest, stranger, host") originally a home for sick, homeless, weak and poor people. With the introduction of the Christian convent medicine around 800 the lodging function (hospitales pauperum) was separated from the care function (infirmarium). (ibid.: 1997:615)

The hospital is a contemporary social institution which we all get into contact with at some time in our lives and contribute to enact in our roles as family or friends, as patients or tax-payers, as employees or suppliers, etc. Being a key social institution, many different actors form and interpret the hospital: the state as legislative and regulative body, owners and operators (presently the counties), the health professional organizations and networks, staff, citizens, and patients.

The institution "hospital" is thus produced and reproduced by different groups of actors of varying understandings of and ideas about what the hospital is and should be. In their capacity as actual or potential users, the citizens hold expectations about the accessibility and services of hospitals. The employees hold a wide spectrum of expectations ranging from the hospital as a workplace offering acceptable wage and working conditions to offering possibilities for research and development activities. The county politicians see the hospital as an element of the healthcare service the functioning of which they are responsible for, but due to the hospital also being important as a workplace they also view it as an essential element of the regional and local economy. National politicians have an eye for the hospital as an important policy area and as provider of issues that might offer the possibility for political profiling. Legislative and central bodies view the hospital as an element of the national healthcare service which, being one of the key sectors of the welfare society must be subject to regulations.

The hospital thus exists in an organizational field characterized by both tensions between perspectives of different – and changing – groups of actors and their simultaneous collaboration around reproduction and transformation of the institution. The hospital thus appears as both a heterogeneous and controversial institution, as it is a common denominator of quite different projects:

[1] translated by Marianne Risberg

"In conducting collective work, people coming together from different social worlds frequently have the experience of addressing an object that has a different meaning for each of them. Each social world has partial jurisdiction over the resources represented by that object, and mismatches caused by the overlap become problems for negotiation." (Star & Griesemer, 1989: 412).

The hospital illustrates on of the characteristics of institutions often underplayed: they are not unambiguous and stable, but ambiguous and plastic. An institution might be taken for granted by a wide range of actors, but they are not necessarily ascribing identical meaning to it just as its function and importance might vary over time:

"...institutions do not "just grow". They must be constructed and maintained as well as adapted and changed. How this is done - by whom and by what processes - is a matter of considerable controversy in the institutions literature generally..." Scott & Christensen (1995:302).

Based on the current debate about the Danish hospital service and the recent reorganizations of the service, the paper analyzes what kind of different projects that over time have been linked to the hospital and the conflicts between and interplay of these. The analysis draws inspiration from Star and Griesemer's (1989) concept of "boundary object", which they launched in an analysis of the collaboration among various groups of actors – including amateurs and professionals – on the construction of a museum of vertebrate zoology at Berkeley University, California:

*"..**boundary objects**.. is an analytical concept of those scientific objects which both inhabit several intersecting social worlds .. and satisfy the informational requirements of each of them. Boundary objects are objects which are both plastic enough to adapt to local needs and the constraints of the several parties employing them, yet robust enough to maintain a common identity across sites. They are weakly structured in common use, and become strongly structured in individual-site use. These objects may be abstract or concrete. They have different meanings in different social worlds but their structure is common enough to more than one world to make them recognizable, a means of translation. The creation and management of boundary objects is a key process in developing and maintaining coherence across intersecting social worlds." (ibid: 393).*

Drawing inspiration from this, the present analysis investigates the "hospital" as a boundary institution that at the same time separates and unites different projects and spheres (in the sense of areas of interest and activity), and thus both functions as uniting institution for collaborating projects and as a battle field for the interests and views of different spheres. The concept of "boundary institution" indicates both a difference in relation to Star and Griesemer's "boundary object" and in relation to analyses of the institutionalization processes of individual organizations (e.g. Christensen & Molin 1995; Borum & Westenholz 1995) in that the paper is not focusing on a specific organization, but on the work of an organizational field with its key institution materialized in the field as a population of organizations.

The analysis is based on both primary data, i.e. observations and interviews, and secondary data such as studies of the hospital field, reports, and newspaper articles. Among the secondary sources Signild Vallgårda's doctoral thesis (1992) has been an important historical source. The counties' present process of reorganizing their hospital services and recent reports from committees under the Ministry of the Interior and Health and the counties have provided empirical input that has been important for the development of the types of projects linked to the hospital.

The Hospitals as a Local Project

The early hospital was an institution embedded in the local communities on a par with churches, town halls, schools, police stations, railway stations, etc., and contributing to define the inclusive urban community. More than a hundred hospital municipalities (towns and the counties at that time) were running the hospitals, and each hospital had its own governing body, which, among others, included politicians. (Indenrigs- og Sundhedsministerens rådgivende udvalg, 2003:26 [The Advisory Committee to the Ministry of the Interior and Health]). Each country town had a hospital for receiving patients both in case of emergency and for treatment. If you were injured, you knew where to go night and day, and if you were living in the town you would be relatively close to the emergency room.

The nature of the hospitals might vary due to the early involvement of religious orders in establishing hospitals and to the size and location. Sanatoriums specializing in nursing and treating specific diseases would often be located on the coast or close to the woods. But in general the hospital was a small local institution situated close to the citizens who knew where to go in case of illness or accident that would often require staying in the hospital for treatment and care over a longer period. This version of the hospital is embedded in the early phase of establishing the institution, and contained, for the physicians, the prospect of a respectable end position in the career system as consultant and head of the local hospital - and thus as a member of the local elite constituting the local community. The remains of this early type of hospital are still traceable in more recent sources:

"hospital: in Denmark a hospital is headed by a consultant and can admit patients for treatment" [in "Fakta" Gyldendals Etbinds Leksikon. Copenhagen 1988:515].

Historically, the early hospitals were "mixed hospitals". According to Vallgårda's description of the period 1930-1945 (Vallgårda 1992: 100-1001):

"Several so-called county hospitals were established. They were hospitals with medical and surgical wards, and possibly a radiography unit. Simultaneously the number of wards with different specialties grew, in particular within ophthalmology and otology. Specialized departments were introduced at still more hospitals in the counties. The number of mixed hospitals dropped from 115 to 83. In the mixed hospitals, the same doctor would treat all kinds of diseases. There was only one consultant who, in most cases, would be a surgeon."

Being embedded in the local communities, the Danish hospitals were numerous and small. In 1927 the population peaked with 167 hospitals, but dropped in the subsequent period to 130 in 1969 (see Figure 1). The reduction by 27% in the population of hospitals over a period of thirty years must be viewed in relation to important demographic changes in Denmark characterized by a growing influx of people from the rural areas to the areas around fewer and larger urban communities.

Simultaneously with the reduction in the number of hospitals, the composition of the hospital population changes. The number of very small hospital with up to 50 beds is reduced dramatically. Hospitals with 51-100 beds are reduced by 50% between 1933 and 1969, hospitals with 1001-300 beds are reduced by 10% from 60 in 1945 to 54 in 1996. The larger hospitals with more than 300 beds are growing modestly (see Figure 1-2). This development is not solely related to the

demographic concentration of the population, but also to the medical ideology of continued specialization and concentration (see Vallgårda 1992).

The local embeddedness of the hospital is still reflected in the mid-1990s. The map of the location of Danish hospitals produced by the Hospital Commission (1997:132) shows the hospitals as centers operating within a radius of 30 kilometers (see Figure 2).

But in 1970 the hospital as a local project is subject to growing pressure when ownership of and responsibility for operations are transferred to the fourteen counties.

The Hospital as a Component of the Project "County Hospital Service"

"A significant reason for the municipal reform was the high number of hospital municipalities - too high to secure an appropriate development of the hospital service. According to assessments at that time the catchment area of hospital service had to be 200-250,000 inhabitants." (Indenrigs- og Sundhedsministeriets rådgivende udvalg 2003:25)

The municipal reform in 1970 generated a new framework for the operation of hospitals: the counties were then seen as the appropriate basis for a primarily self-sustaining; hospital service. The number of hospital owners was reduced from 100 to the 14 municipalities, the Copenhagen and the Frederiksberg municipalities, and the state in relation to specific hospitals.

Operating the hospital service becomes the major economic activity of the counties, and the primary task of county politicians. The counties, being highly autonomous, are allocated the task of securing the county population a satisfactory activity and service level both within primary and secondary healthcare financed by county taxes supplemented with state subsidies. The basic model for the county hospital service is that the population within a given county must be treated in the county and only in cases of rare diseases transferred for treatment at specialize hospitals outside the county.

The population of hospitals taken over by the counties reflects the previous ownership structure, transport conditions, and demographic distribution. All three elements are subject to significant changes leading to considerably pressure towards structural adaptations. Therefore, during the 1970s treatment activities are primarily undertaken in modernized county hospitals and the smallest hospitals are closed. These measures at times gave rise to heated debates about the justification of small, local hospitals.

After the municipal reform, the number of hospitals is reduced significantly with 40% from 130 in 1969 to 77 in 1994 (see Figure 1). The thinning of hospitals hits in particular the small hospitals, and county politicians, being responsible for the operation of hospital, are finding it increasingly difficult to decide on closing down small hospitals, and to justify their decisions to the citizens. And in particular to the voters in small communities who are deprived of one of the institutions that helps define a "whole" urban community.

Most of the reports on the hospital service in the 1980s and the 1990s reflect the urgency of the problem, which is also thematized in a special publication: "De små sygehuse – vilkår og fremtid" [The small hospitals – conditions and future] (Amtsrådsforeningen 1996) [The County Council]. The introduction summarizes the opposite demands and expectations characterizing the counties' hospital service planning. The final issue mentioned is:

" Wishes/pressures from the population. When hospitals have been threatened by closing, the local population has bucked the trend. Also because local workplaces are jeopardized. At the same time it is claimed that the population, in case of illness, prefers the large, specialized hospitals." (ibid.:4)

The report (ibid.:9) shows a drop in small hospitals from 58 in 1984 to 41 in 1994 and in their share of the total population of hospitals from 61% to 52% over the decade. (see Table 3)

The report equates small hospitals and local hospitals and defines this population as (ibid.:8):

Local hospital of minimum three clinical wards:

	Clinical wards apart from medicine and surgery	[6 of 146-180 beds]
Divided [hospital]	Medicine and surgery separated in two wards	[20 of 70-155 beds]
Mixed [hospital]	Medicine and surgery in the same ward	[6 of 23-79 beds]
Other somatic hospital:	Specialized function, typically within medicine	[9 of 16-87 beds]

Compared to Vallgårda's classification, which is underlying Figure 1, this categorization draws a the line of separation in the middle of the category 101-300 beds. The report indirectly explains why this is so (ibid.:3) referring to *"...conditions threatening the preservation of small and medium-sized hospitals."* The delimited population thus seems to be identical with the size that the counties find it difficult to sustain.

Right from the beginning the counties have had to work with an institutional heritage – the small hospitals – which represent earlier forms such as the "mixed hospitals". Therefore, these hospitals become the critical issue in attempts to establish the county hospital service as a coherent unit toward local attempts to preserve the local hospital as an institution.

The counties justify their tendency to close small hospitals by referring to, in part, problems of recruiting physicians to the units and, in part, to the economy. Recruitment problems seem to be proportional with the distance between the local hospital and the university or county hospitals. The economic incentives to close small, outlying hospitals are tied to a traditional characteristic of hospitals: they must maintain functions to receive emergency patients. The head of hospital service in one of the smaller counties describes the problems:

R:... the number of hospitals and of full emergency preparedness.. have been controversial issues, and the politicians have wanted to maintain five hospitals and five units of full emergency preparedness. This is stated directly in the development plan, and so it will be as long as it is possible to recruit physicians. But the politicians have shut their eyes to the economic consequences of opting for this structure – it is expensive. It costs a lot of money to maintain five units of full emergency preparedness with only a few patients... Taking a look at the figures shows, for instance, that [three small hospitals] only received 1,400-1,600 patients into the emergency ward in a year, which is at the most three to five in a day. Having to main emergency preparedness at that level is expensive.

I: When you say in a day, it is compared to an emergency preparedness that in principle operates day and night...

R: Yes and 365 days a year. At the same time as you have full operating [capacity] from midnight [passer det tidsrum, der står i dk text??] till the next morning, and in the three small hospitals you have a total of 17 operations a year on average. In a year! This corresponds to one operation on average every second month in each of the three hospitals. When I have to pay for this full emergency preparedness – surgery, anaesthetic, X-ray, biochemistry – what do I know – it is extremely costly.

The conflicts between the county project and the local project are reflected in the setting up of local hospital support groups in several of the outlying counties, such as North Jutland, Ringkøbing, South Jutland, and Storstroem County. The support groups are mobilized when the county project implies attempts to either close or "amputate" small hospitals by e.g. removing their emergency functions. In recent years, during which the smaller counties in particular have been facing economic difficulties and found it hard to recruit staff for the specialties, these counties have witnessed several clashes between the local projects the county projects. A sign-in campaign in a town in West Jutland in the summer of 2003 mobilized almost all registered voters, and in South Jutland the chief executive of the local authority hired a consultancy to help combat the county projects which, in 2002, suggested to close two smaller hospitals.

The county measures are attempts to sustain activities within the confines of the local hospital and to adapt the tasks and contents of these activities to the economic and manning restrictions. This is reflected in the introduction of new categories in replacement of "hospital" as the name of the smallest units. One example is the county of South Jutland. Here the district revenue administration, in the debate following the proposal to close smaller hospitals, presented the concept of "healthcare centers" as the name for a potential new type of institution undertaking a repertoire of tasks different from those of the "traditional hospital". This idea complies with the views of the Hospital Commission (1997:154):

"Therefore, in general it will not be possible to preserve the small hospitals in their current form. The preconditions for preserving certain of the small hospitals is that they are allocated delimited functions within medicine and possibly perform certain elective operations. This will enable utilization of existing physical and staff resources."

But the hospital is not only an institution on the boundary between the county hospital service and the traditional local project. The project of the counties to establish a coherent county hospital service also breaks with three other projects tied to the hospital: *the hospital as a healthcare corporation, the hospital as a medical project, and the hospital as a component of a national healthcare service*.

The Hospital as a Healthcare Corporation

The project of transforming the hospital to a healthcare corporation began seriously in the early 1980s – ten years after the counties had been established.

During the unregulated expansion of the hospital service from 1930 to 1970, the hospital wards were subject to specialization and centralization driven by the medical argumentation (Vallgårda 1992). The result was a hospital organization within which medical and surgical specialties could unfold their activities relatively autonomously. A collegial structure of boards and committees of

consultants coordinated to some extent activities across the individual specialties whereas the remaining groups of professionals were organized in parallel "pyramids". The hospital director (or inspector) had no overall managerial responsibility for hospital activities, but was merely responsible for the administrative functions, including submission of accounts.

With the municipal reform of 1970, the medical or surgical wards became the basic organizational unit in the hospital. The wards were managed by an administrative consultant who primarily concentrated on the medical activities –diagnose, treatment, training, and research whereas the head nurse attended to the managing of nursing and auxiliary functions and in effect managing the daily operations in the ward. Combined the consultant and the ward sister or the head nurse made up a management duo, which was later to be formalized in terms of shared management at ward level. In effect the ability of the two individuals to collaborate and supplement each other was of decisive importance for whether or not the ward functioned satisfactorily.

No real hospital management existed at that time. A collegial council of consultants "managed" the physicians and surgeons, the administrative matron managed the nurses, and the hospital inspector/director managed the technical-administrative staff, the orderlies and the group of domestic workers. These three major professional "pillars" had, in principle, direct access to the political steering level. And the other professional groups in the hospital had each their professional hierarchy that insisted on not being subordinated other groups. The hospital was thus not an organization in the traditional sense, but rather an arena for the production of treatment and nursing by groups of health professionals and for the reproduction of actors and their profession through training and research. Within this structure the production of health services and professional projects were concomitant. The managerial practice pointed back toward the "archetype" hospital – run by a consultant assisted by a "matron" who would live in the ward.

Larger and still more specialized hospitals followed in the wake of the growth in the treatment system. The managerial structures for handling the needs for coordination had emerged over decades and were embedded in the hospital traditions. Basically these structures were rooted in the understanding of the hospital as requiring special managerial forms due to its specialized tasks and actors who viewed their jobs as a vocation.

This understand was contested for the first time during the 1970s, but the actual "corporation" only begins to take shape with the Produktivitetsudvalget [Productivity Committee] (1984) which in its report compares hospitals with private production and service corporations, and points towards differences in terms of competition and management:

"It is thus still difficult to assess the societal efficiency of hospitals. On the face it is considerably easier to say something about their productivity, and in particular about the development in productivity. In that respect hospitals are not essentially different from contemporary private industries and service organizations. Hospitals are, like these organizations, large and technical and organizational complex units. The major difference is that private corporations must compete with other corporations in a market. Therefore, the management is continuously forced to consider development in the productivity of the organization. If management fails to do so, the corporation will lag behind in the competition with other corporations. In the longer term this might threaten its survival and consequently the investments of the owners and the jobs of the staff.

Hospitals are not, to the same extent, experiencing pressure from competing hospitals. Competition between related wards or wards located close to one another might occur. But apart from such situations, the problem of productivity is one of securing satisfactory development in the relationship between personnel and other resources and hospital services rendered to patients. Within the politically determined economic framework, the hospitals are obliged, socially and professionally, to secure the best possible efforts towards patients at the scale required in the given situation." (ibid.:25-26)

The productivity (efficiency) of the individual hospital is thus singled out as the central problem and the existing complex management and decision structure as inappropriate for resolving the problem. Against this background the committee discusses four different management models:

"The proposed modernization of the economic system of hospitals will in itself enhance productivity. However, this modernization gives rise to the more general question of the most appropriate management structure. And here too, it is decisive to find a balance which, on the one hand, allows for the exploitation of the advantages of extensive decentralization, and, on the other hand, the need for strengthening the overall management responsible for prioritization and planning cutting across the various hospital units. A balanced reform of the managerial structure at both hospital and ward level is thus a precondition for the hospitals being able to implement dynamic adaptation to changes that in the short and the long run may characterize the conditions for their activities.

No single model meets these demands. Therefore, four different models are listed all of which contain, to some extent, improved conditions compared to the previous management structure. The four models are:

1. *Unitary management*
2. *Troika management*
3. *Shared management*
4. *A hybrid model" (ibid.:12)*

The committee's report forms the basis for introducing the troika model at the Bispebjerg Hospital in the mid-1970s, and over the next ten years this model is, in a modified version, disseminated to all hospitals in all the counties. By 1994 the model has achieved the status of the standard management model (see Bentsen 2000 for a more detailed analysis of the dissemination process).

The acceptance and dissemination of the troika model is explicable in its ability function as a "managerial boundary institution" by appearing as the answer to several management projects:

- External desires for better control with the economy and functions of the hospital service and for limiting the medical dominance and tendencies to prioritize specialties and growth governed by supply.
- The Productivity Committee's fundamental understanding of the hospital as a production unit, and the great challenges being to control the consumption of resources and the economy – challenges that can be dealt with by adapting the management structure.
- The approximation of the troika model to an actual management model that simultaneously takes into consideration the particular characteristics of the hospital and its managerial "archetype".

- The profiling of nurses in relation to management issues and the group's desire to preserve its professional pillars so far symbolized by the matron function.
- The desire of the administrators in the hospital as well as in the district revenue administrations and the central administration to adapt the management models for hospitals to resemble those of other sectors.
- A compromise between the three dominant professional groups, all three being represented in the new management structure for which collaboration is projected to be the significant premise for it being able to function.
- The counties' search for a management model capable of operating the hospital service for which they are allocated responsibility in effect of the municipal reform in 1970.

In supplement of strengthening the hospital management, the element of competition within the hospital service is intensified via two political decisions in the early 1990s.

In 1990 it is determined politically, after intense debate, to break with the pure national planning regime for the hospital service by making it possible to establish private hospitals. In 1992 "the free choice of hospital" is introduced and the citizen's commitment to the county hospital is, in principle, disestablished. But the equal and free access to the basic services of the hospital is maintained as the fundamental principles. However in case of waiting lists or services not provided by the public hospital service, treatment in national or foreign private hospitals becomes possible against payment or private insurance schemes.

Even though both arrangements have only limited effect during the 1990s (see Vrangbæk 1999), they seem, combined with the strengthening of the hospital management, to draw the hospital institution toward a "corporatization project". This strongly impacts the way in which the counties and the individual hospital managements understand the interrelationship among hospitals during the 1990s. The growing stress on hospitals as autonomous organizations gives rise to this interrelationship being perceived in terms of competition rather than in terms of collaboration. And this tendency seems to comply well with the medical consultants competing over building up specialties and attracting specialists to their specific county hospital.

Around 2000 this development leads to tensions in relation to the smaller counties' attempts to realize the project "county hospital service". Several of the counties attempt to redefine the interrelationship among hospitals from competition to collaboration with the purpose of securing coherent county hospital service. Examples of such efforts are the counties of Ringkøbing, Storstroem, Southern Jutland, and West Zealand. Around 2000 these counties attempt, drawing on various models, to break with the tendency of sub-optimization (thinking in terms of being in funds), and of loyalty toward the hospital (thinking in terms of land registration) rather than toward the county hospital service, and of competition among hospitals ("the establishment of kingdoms") over specialties and specialists.

This does not mean, however, that the corporatization project has been abandoned. It still occurs as an important element of the "national project" as demonstrated in the report from the Advisory Committee to the Ministry of the Interior and Health (2003:14-15):

"...However, in the view of the committee market mechanisms should be more widely applied than is the case today. In certain areas the committee recommends to intensify competition.

- *The committee assesses the possibility to exist for competition among hospitals over planned surgical operations within a certain complacement area.*

Increasing the autonomy of hospitals combined with a larger element of activity based financing will, according to the committee, function to strengthen the hospitals' incentives to compete…"

Also "management" was on the agenda in the late 1990s as reflected in the Hospital Commission Report (1997) which asks for more "unequivocal management" both in terms of placing responsibility and in number of managers at a given level. In view of the development and for financial reasons the troika model is gradually abandoned in the late 1990s in connection with a wave of regional reorganizations that leads to the concept of "the function-bearing unit" (see below). Especially in the smaller counties of which Southern Jutland is one of the first counties to slim hospital management from three to one director. Around 2000 the "troika management" has lost its status as the standard model for hospital management.

The Hospital as a Medical Project

Based on an historical analysis of hospital statistics and debates Vallgårda (1992:272-281) summarizes the development of the Danish hospital service as:

"…the history about the establishment, consolidation, golden age, and beginning decline of an institutional form, an idea or a paradigm. This institutional form is the specialized, centralized, bio-technical treatment oriented and still growing hospital service… The idea was to group the specialized wards in fewer units, create centralization and large-scale operations." (ibid.:272

Vallgårda divides the analyzed span of years into the following periods:

1930-1945: The establishment of the specialized hospital service in Denmark
1945-1960: Consolidation
1960-1973: Golden age
1974-1987: Beginning decline

The argument for the "beginning decline" is in part based on the falling degree of specialization, of growth rate, and of hospital volume, but primarily on a more critical attitude in society toward the medical argumentation for continuing along the path of developing specialization and centralization.

This is reflected in the Ministry of the Interior and Health's second Hospital Commission report (1997) which was released in an epoch of growing pressure from politicians and administrators engaged in reforming the public sector and from an increasingly critical population that contested the profession-driven development, demanding quality and service from the users' perspectives.

This report differed significantly from the first one (Produktivitetsudvalget, 1984) in two respects. First, it pointed to the quality of hospital services as a main problem. Both the Ministry of the Interior and Health (Indenrigs- og Sundhedsministeriet 1994) and the National Board of Health had already placed this issue on the agenda inspired by the WHO. Second, the report focused on the problems related to the continuous medical specialization, leading to increasingly complex hospital organizations, still more complicated pigeon-holing processes (matching patient and specialty),

reduced number of patients per specialized unit (and hence a weaker basis for sustaining specialty competencies and quality), increasing difficulties in securing coordination between units, and absence of prioritization and hence decreasing productivity. In short, the report emphasized the need for improving the planning of the Danish hospital service as a means of securing both its quality and efficiency.

The report stressed judgement as playing a far too significant role (ibid.:136) in hospital planning, and asked for more evidence-based planning that took into consideration the significant differences between medicine and surgery (ibid.:137), and the need for uniting surgery tasks in certain hospitals in order to ensure quality and economize on resources. One of the recommendations (ibid.:155, item 1) was for the National Board of Health to instigate an inquiry into the relationship between the population of the complacement area and the quality of services. This central means-end relation was characterized as inadequately substantiated in earlier analyses, including a report from the Danish Surgical Society (1996) that pointed to a population of 250,000 as being the most appropriate one for a basic specialty.

The critical comments of the Hospital Commission and its direct appeal to the National Board of Health were soon followed up by the National Board of Health, which invited the Danish Medical Society to participate in a task group with the purpose of establishing a (medical) professional basis for hospital planning to manage the quality of professional standards and education within the medical specialties.

In response to this the Danish Medical Society's report (1998) proposes the new organizational concept – "the function-bearing unit" - as a means-end rational, general organizational solution to all specialties' professional quality problems:

"*Based on the objectives of the Hospital Commission to increase the quality of hospital services, we suggest introducing the* ***function-bearing unit*** *as the basic professional organizational model. The function-bearing unit is defined as "a professional organizational unit of high professional standards that can undertake the majority of tasks related to a basic specialty, such as diagnosis, treatment, care, continuous training of doctors, and the research, professional development, and quality management related to these tasks, taking into consideration that there are tasks that can only be performed in a few national hospitals". It is thus an organizational unit - and not a physical unit - which is intended to constitute the framework for the aggregated services of a basic medical specialty in a county or for a population of about 250,000 people, including clinical services, research and development and quality management. This size is chosen on the basis of reports from individual basic specialties and sub-specialties based on rational operations, including especially the coverage of sub-specialties, the organizing of emergency functions and not the least the cross-cutting specialties operating round the clock."* (Dansk Medicinsk Selskab, 1998:10).

Medical expertise and research-based planning are thus reinstalled as the core competencies necessary to manage hospital activities, and the organization of the medical corps as the key to ensuring quality. The top managers of these new units have to be highly competent and scientifically qualified physicians (ibid:40). Hospital management is not mentioned, but indirectly contested or attributed a role as "administrator" of auxiliary, physical functions and resources through the distinction between physical units (hospitals) and organizational units (function-bearing units).

In relation to the WHO-inspired quality concept of the Hospital Commission, the Medical Society offers a new definition which puts less emphasis upon the efficiency (effective use of resources) criterion, and reformulates the other criteria in terms of activities and standards that are closer linked to the modern medical professional practice and career tracks. But, more important, the intraprofessional activities of research, development and educational activities have been added as quality indicators. Thus the medical specialties translate the originally formulated desired ends to align with the professional communities' activities (see Borum 2002, for a more detailed account of the Danish Medical Society's translation processes).

In this version the new organizational concept can be interpreted as a counter-attack against the previous years' efforts to strengthen the non-medical managerial control of hospital activities embedded in the "corporatization project". Furthermore the argumentation which is a modernized version of the medical argumentation underlying the development of the Danish hospital field since the 1930s (see Vallgårda, 1992) launches a project which by arguing for a national basis for hospital planning opposes both "the local project" and "the county project". But by arguing for attribution of other functions to small hospitals as an alternative to closing them down, and for a population size around the size of the smallest counties as the planning basis for basic medical specialties, the confrontation with these two projects is softened (see Borum, 2002).

The Hospital as Component of a National Healthcare Service

Even though the counties have extensive autonomy in the planning and running of the hospital service, it is also subject to national planning due to its origin in the period prior to the introduction of counties and as stated in the Hospital Law from 1946 (Vallgårda 1992:133-139). It is the task of the National Board of Health under the Ministry of the Interior to plan the most specialized forms of treatment so that they are only available in a few hospitals in the country.

"Against this background there is a long tradition within the hospital service for division of labor among the hospitals. The division of labor appears, among other things, from the 'Guidelines concerning the planning of specialties and national and regional functions' published by the National Board of Health and revised every second year. The guidelines are worked out in collaboration with the counties and the medical associations. The commission is aware of the National Board of Health currently investigating the extent to which the guidelines are complied with.

The most recent guidelines from June 1996 divides hospital functions into two major levels:

1. *basic level*
2. *national and regional level" (Sygehuskommissionen 1997:134)*

Over time this planning has developed into a classification of hospitals that today, after a thorough revision as of January 1, 1989), includes the following categories (Vallgårda & Krasnik 2002:45-46; Sundhedsstyrelsen 2001):

Large specialized region- or national hospitals
Large, highly specialized hospitals with substantial national and regional functions

Other large specialized hospitals
Large, specialized hospitals with substantial county functions – and in one case also national and regional functions

Local hospitals with at least three clinical wards
Smaller, specialized hospitals with predominantly local functions

Local hospitals – divided hospitals
Small hospitals with a medical and a surgical ward, anesthesia and X-ray diagnostics

Local hospitals – mixed hospitals
Small hospitals with one mixed medical-surgical ward

Other somatic hospitals
After-treatment hospitals, rheumatic hospitals, orthopedic hospital, hospitals for treating diabetes, etc.

Psychiatric hospitals

Combined categories 3-6 constitute "the small hospitals" and represent the hospital as a local project (see above) including the mixed and divided hospitals which were the first forms of hospitals to emerge during the period 1930-1945. The other large specialized hospitals emerged in the period 1954-1966 under the name "county hospitals", which the National Board of Health in 1968 argued for being divided into normal hospitals (catchment area of 75,000 inhabitants) and extended normal hospitals (catchment area of 250,000 inhabitants) while national hospitals should have a population of one million inhabitants. The category "large specialized region- or national hospitals" was established around 1970.

If we look at the geographical distribution of these categories (Figure 2) the picture is:

8 large specialized region- or national hospitals
3 in the capital
1 in Odense
2 in Aarhus
1 in Aalborg

19 other large specialized hospitals
1-2 per county (except for Bornholm) and within the Copenhagen Hospital Corporation

11 local hospitals with at least three clinical wards
0-2 per county and the Copenhagen Hospital Corporation

16 local hospitals – divided hospitals
uneven distribution; none in the capital

7 other somatic hospitals

12 psychiatric hospitals

0-2 per county and the Copenhagen Hospital Corporation

The "small hospitals" are located in or close to small urban communities of a certain distance from a larger urban community; there is at least one other large specialized hospital per county; large specialized region- or national hospitals only exist in larger urban communities; there is a strong concentration of hospitals in and around the cities. The combination of a large and growing catchment area, good means of transportation and the presence of universities concur with large hospitals and regional- and national specialties.

As a corrective to the image of fourteen counties' relatively autonomous hospital service there is a competing one with a strong concentration of hospitals in and around the capital and the cities Aarhus, Vejle, Fredericia, Kolding, and Odense. The demographic development and the national planning already seem to have created "regionalization". This is reflected in the voluntary collaboration among counties across regional borders or within regions, and the extensive exchange of patients across county borders, which in the case of the smaller counties might be of the size corresponding to the activity level of a hospital. The counties will have to embark on the process of redesigning their hospital service and recognize that that it is not merely a county project, but also part of a regional- and national system under pressure from "the medical project" and "the corporatization project" which are weakening the counties as being the only ones providing treatment options.

"The national project" primarily concurs with "the medical project" as reflected in the most recent organizational concept within the Danish hospital service "the function-bearing unit" (Regeringens strategiplan for sygehusvæsenet 2000) [The Government's strategy plan for the hospital service], which can be viewed as an attempt to create the basis for quality assurance through modernizing and tuning the national planning of specialties. The "function-bearing unit" provides for organizing the medical and surgical specialties across the physical hospitals (buildings) in order to secure specialties the catchment area that physicians and surgeons perceive necessary for ensuring adequate professional quality. The basic idea of the hospital field – specialization and concentration – is formulated in a new variant that both implies greater division of labor and coordination among hospitals, thinning the number of emergency wards, and new management structures reaching across hospitals.

But viewed in the light of a national hospital service the regionalization has not been driven far enough under the current county structure (Sygehuskommissionen [the Hospital Commission] 1997:133):

"The current hospital structure reflects in part the previous status of towns as hospital owners, in part the attempts of the present counties to provide their citizens with appropriate hospital service. Optimization within the single county may, viewed in the larger geographical perspective, lead to inappropriate structures. However, some of the counties have entered agreements on a certain division of labor among the hospitals.

Against this background there has been growing attentiveness toward the possibilities for establishing collaboration, including divisions of labor among hospitals across county borders."

The Advisory Committee to the Ministry of the Interior and Health (2003) follows up on the Hospital Commission's discussion of various models for placing the responsibility for hospital

service at county, municipal, state or regional level, respectively, and points toward regionalization (or fewer counties if you like) as the most satisfactory solution. In this context the foundation for the municipal reform in 1970 is summarized and commented upon:

"At the time of the municipal reform in 1970 the idea was that it would be possible to create a sustainable hospital service at an extended basic level, that is, being able to treat 85-90% of all diseases in the county hospital with a minimum population base of 200-250,000. The question is whether these preconditions still exist.

- *Having reconsidered the situation in view of the present medical specialization, the committee point towards this figure being 400-700,000 inhabitants tending toward continuous increase. However, the committee finds it impossible to determine the precise number of inhabitants without a view to, among other things, geography and rate of urbanization."*

It is worth noting that over four years the necessary complacement area of 250,000 inhabitants, which was the argumentation for the function-bearing unit (see above), has doubled with an upward tendency. This creates the premise for the current county project losing its foundation and that the counties should be replaced by a different body.

Discussion

The hospital has been seen as a boundary institution, which simultaneously unites and separates different spheres and their projects. This analytics has, first of all, produced an empirical portrait of competing and collaborating projects around the hospital institution within the Danish hospital field. Second, it constitutes the foundation for conclusions concerning the function of the hospital as a boundary institution. Finally it provides the basis for reflections on the contribution of combining "boundary object" (Bowker & Star 1999; Star & Griesemer 1989) and institutional theory.

Projects linked with the hospital

The municipal reform in 1970 is an important reconfiguration of the Danish hospital field which created a new sphere for the hospital and the linked "county project" in supplement of the three existing projects: "the national", "the medical", and "the local". The new counties are faced with having to manage the interface of "the local hospital project", which in the subsequent period gives rise to continuous troubles in relation to the project "a coherent county hospital service" around the hospital category "small hospitals".

Insert Figure 4

During this phase, the three other projects seem to co-exist without much trouble. Compared to the previous phases, "the medical projects" is decoupled from "the local project" in that the latter no longer offers attractive professional development potentials and careers.

After 2000 the picture changes dramatically. "The local project" is being discontinued. The number of small hospitals are strongly reduced and the few left become the subject of controversies, and the process begins to redefine them into a different type of institution.

Contributing to this process is the junction of "the medical project" and "the national project" around the concept of "the function-bearing unit" (FBE) that in its increase in the necessary complacement area for specialties de facto makes it impossible to preserve the local (small) hospitals with the present function. At the same time, the new version of "the medical project" add to place the hospital projects of the smaller counties under pressure while being combinable with the government's "national project" in stressing larger units. Around 2000 the government subject the "county project" to considerable pressure toward a regionalization of which the categorization of hospitals and their geographical distributions over time are precursors.

The hospital as a "corporatization project" launched in the 1980s is in keeping with the pronounced shift in the function of the hospital. The contemporary hospital is increasingly becoming the provider of well-defined products in the shape of specialized treatments. A hospital is no longer required to provide the total treatment, nursing, and care that the individual patient might need and the quality of which is assured through various methods, such as reference programs, clinical pathways, and accreditation. The recent decades of focusing on quality development and of assuring quality have turned the services of hospitals into products, which is a precondition for counties and hospitals entering contracts on the buying and sale of services across boundaries – including private hospitals. The changed form of production supports both the "corporatization project", and complies with both "the national project" and "the medical project".

From around 2000 "the corporate project" becomes an element of "the national project" which appears as a vague combination of planning and market-based elements. After having abandoned the "troika model" as a managerial boundary institution during the 1990s, the prevailing relations among "the corporatization project", "the county project", "the medical project", and "the national project" are subject to controversies over managerial control with the new structure, e.g. "the function-bearing unit". These tensions point toward unsolved relations among projects that otherwise seem to be resting on a shared foundation:

Insert Figure 5

Hospital performance as a boundary institution

For a lengthy period the hospital functioned as a "boundary institution" that simultaneously was able to unite and separate different spheres working with different projects linked with the reproduction and reconstruction of the hospital.

The hospital as a boundary institution seems to resemble Star & Griesemer's (1989:410) category: "*Ideal type*… an object such as a diagram, atlas or other description which in fact does not accurately describe the details of any one locality or thing. It is abstracted from all domains, and may be fairly vague. However, it is adaptable to a local site precisely because it is fairly vague; it serves as a means of communicating and cooperating symbolically – a 'good enough' road map for all parties." Löwy (1992: 374-375) labels these "'Boundary concepts' [which] are loosely defined concepts, which precisely because of their vagueness, are adaptable to local sites and may facilitate communication and cooperation."

Until around 1970 the hospital seems a fairly spacious concept of an institution which, by not being categorized in various types, both facilitates communication and collaboration among spheres simultaneously with being pliable and adaptable to various projects. But the introduction of counties

as a new sphere links a new project to the hospital institution the effect of which is continuous controversies in relation to the local sphere in which the hospital had earlier been embedded. In parallel the national and medical projects result in – as reflected in the National Board of Health's categorization work – the development of a hospital typology and –topography which to an increasing extent is separating and marking the differences between the spheres of the various projects. In particular the differences and the controversies characterizing the county project are rendered visible. In addition the foundation of both the local and the county spheres weaken over time in effect of demographic, economic, technological, and political development trends largely produced outside the hospital field.

Demands for the plasticity of the hospital institution grow, that is its ability to stand being stretched, bent, and twisted in relation to various projects. While the hospital until around 1970 seems to have been sufficiently plastic to function as a boundary institution between fairly different projects, this no longer seems to be the case in 2000. Over time the hospital seems to have lost its ability as a boundary institution to function as a means of managing conflicts - "as a minimum common denominator" or as a plastic object (Star & Griesemer 1989:404) that different parties can shape to fit their local project.

But this development must also be viewed in the context of an increasing number of projects being linked to the hospital over time, such as reflected in the still more complex objectives for the hospital service used to assess it performance or organizing of which the most recent ones include the following dimensions (Indenrigs- og Sundhedsministeriets rådgivende udvalg 2003:11):

- Free and equal access to patient treatment
- Free choice of hospital
- High quality in patient treatment
- Coherent clinical pathways
- Consideration of differentiated patient demands and wishes
- Efficient utilization of resources
- Efficient overall cost control
- Democratic control and proximity.

- a boundary institutions can be overloaded with cross-pressure from conflicting projects.

The performance of boundary institutions is based on the affiliated spheres and their projects being fairly steady. In the analyzed period a new sphere – the counties – is introduced to the hospital institution which marks a clear shift in the geographical context of the hospital institution: a decoupling from the local and a closer coupling to first the counties and most recently to regions and the nation. The hospital institution is being twisted and stretched beyond its plasticity that is reflected in the current shelling of the local sphere from the hospital institution, as expressed in the conversion of small hospitals into the new type of institution, "healthcare centers".

But in contrast to Scott et al's (2000:39) picture of the American hospital

"Increasingly, however, these traditionally dominant forms are beleaguered and marginalized. Some are dying; most are undergoing dramatic changes in structure; and all are struggling to survive."

The Danish hospital does not seem to become marginalized or to be struggling for survival – with the exception of the small hospitals – even though it is subject to significant structural changes. The larger hospitals still seem able to function as boundary objects in relation to several important spheres.

Institutions as boundary objects

Analyses of national hospital fields often apply "hospital" as a non-detailed, taken-for-granted concept. The analysis of the hospital as a boundary institution has demonstrated this to be problematic in relation to both an historical (diachronic) and a contemporary (synchronic) analysis. The historical analysis conceals that the hospital as an institution has undergone – and still is undergoing – significant changes over time, and contemporary analysis suppresses that the present hospitals show significant variations and de facto cover rather different types of organizations.

Scott et al.'s (2000) analysis of the development of the hospital field in the Californian Bay Area contributes to elucidate the dynamics of institutions and fields. The analysis describes the historical development of the population of hospitals on preselected, theoretically based dimensions, such as number, goal orientation, formal structure, technology and institutional linkages as the basis for identifying how adaptive processes and ecological processes have affected populations of healthcare delivery organizations (Scott et al 2000:96-123).

The present analysis has applied a different approach to the study of institutional dynamics, that is more inductively to identify how the hospital as a concept and an object has performed over time as a boundary institution in relation to different spheres working with projects linked to the hospital. Viewing institutions as boundary objects intensifies attention toward controversies that might indicate institutional change or transformation. The classifications and categories of the field, and changes in these – rather than theoretically founded dimensions – come to constitute the basis for elucidating the dynamics of institutions and organizational fields. Collaboration among hospitals or conflictual ecology around the hospital is not assumed a priori, but is rather the result of analyzing how different spheres attempt to shape the hospital institution to fit their projects as reflected in the current attempts of reorganizing, changing categorizations over time, and change in the composition and geographical distribution of the population of hospitals.

The hospital institution appears not to live up to Bowker and Star's (1999:307) requirements to a boundary objects of being more than "…just temporary solutions to disagreements about anomalies. Rather, they are durable arrangements among communities of practice." Nonetheless, the analysis has provided evidence for the perspective's focus on classification and categorization work as a means to providing insight into the practical politics of organizational fields (Bowker & Star, 1999:44, 319).

The analysis has produced a portrait of an institution – the hospital – as being both a dependent and an independent variable in relation to the field which it is part of. The hospital institution has not only changed in form and importance over time under the influence of its ecology, but as an existing and important institution it also contributes to affect development in its ecology. The hospital is at one and the same time a result of development processes within the hospital field and a premise for decisions to implement changes in this field. This is concretely reflected in the construction of new spheres linked to institutions: the ecology of the hospital – the hospital field, is reconfigured with the introduction of counties, which again is succeeded by work with the hospital

institution leading to changes in the characteristics of the population of hospitals. This again contributes to create the conditions for the current reconfiguration of the hospital field. As such the analysis indicates that ”boundary object” is a fruitful perspective for analyzing the co-construction of institutions and organizational fields (DiMaggio & Powell, 1991: 28, 31).

References

Bentsen, Eva Zeuthen (2000) *Sygehusledelse i Danmark – Trojkamodellens opståen, spredning og funktion.* Copenhagen: Nyt fra Samfundsvidenskaberne.

Borum, Finn (2003) *Means-end frames and the politics and myths of organizational fields.* Forthcoming in *Organization Studies*.

Borum, Finn & Ann Westenholz (1995) The Incorporation of Multiple Institutional Models: Organizational Field Multiplicity and the Role of Actors. In W.R.Scott & Søren Christensen: *The Institutional Construction of Organizations*; Thousand Oaks: Sage (p. 113-131).

Bowker, Geoffrey C. & Susan Leigh Star (1999) *Sorting Things Out.* Cambridge, Massachusetts: The MIT Press.

Christensen, Søren & Jan Molin (1995) Origin and transformation of Organizations: Institutional analysis of the Danish Red Cross. In W.R.Scott & Søren Christensen: *The Institutional Construction of Organizations*; Thousand Oaks: Sage (p. 67-90).

DiMaggio, P. & W. Powell, (1991) The iron cage revisited: Institutional Isomorphism and Collective Rationality in Organizational Fields. In Powell, W. & P.J. DiMaggio (Eds.) *The New Institutionalism in Organizational Analysis;* Chicago: University of Chicago Press (p.63-82).

Kanter, Rosabeth Moss, Barry A.Stein & Todd D. Jick (1992) *The Challenge of Organizational Change,* New York: The Free Press

Meyer, Alan D, James B.Goes & Geoffrey R.Brooks (1993) Organizations Reacting to Hyperturbulence. In Huber, G.P. & W.Glick (Eds.) *Organizational Change and Redesign,* New york: Oxford University Press (p.66-111).

Löwy, Ilana (1992) The strength of loos concepts – boundary concepts, federative experimental strategies and disciplinary growth: The case of immunology. *History of Science,* Vol xxx: 371-396.

DiMaggio, Paul W & Walter W. Powell (1991) Introduction to Powell, W. & P.J. DiMaggio (Eds.) *The New Institutionalism in Organizational Analysis,* Chicago: University of Chicago Press (p.1 - 38).

Scott, W.R. & Søren Christensen (1995) *The Institutional Construction of Organizations*; Thousand Oaks: Sage.

Scott, W.R., M. Ruef, P. Mendel, & C.A. Caronna (2000) *Institutional Change and Healtcare Organizations. From Professional Dominance to Managed care.* Chicago & London: The University of Chicago Press.

Star, Susan Leigh & James R.Griesemer (1989) Institutional Ecology, 'Translations and Boundary Objects: Amateurs and Professionals in Berkeley's Museum of Vertebrate Zoology, 1907-39. *Social Studies of Science,* Vol.19:387-420).

Vallgårda, Signild (1992) *Sygehuse og sygehuspolitik i Danmark. Et bidrag til det specialiserede sygehusvæsens historie 1930-1987.* Copenhagen: Jurist- og Økonomforbundets Forlag.

Vallgårda, Signild & Allan Krasnik (2002): *Sundhedstjeneste og sundhedspolitik – en introduktion*. Copenhagen:Munksgaard.

Vrangbæk, K. (1999) New Public Management i sygehusfeltet – udformning og konsekvenser, p.33-56, in E.Z. Bentsen, F.Borum, G. Erlingsdóttir & K. Sahlin-Andersson (red.): *Når styringsambitioner møder praksis.* Copenhagen: The Copenhagen Business School Press.

Data sources

Amtsrådsforeningen (1996 - 98?): De små sygehuse – vilkår og fremtid. Copenhagen: Amtsrådsforeningen.

Dansk Kirurgisk Selskab (1996) Kirurgisk organisation, udvikling og kvalitet. Århus: Lægeforeningens Forlag.

Dansk Kirurgisk Selskab [Danish Surgical Society] (1996)

Dansk Medicinsk Selskab [the Danish Medical Society] (1998): *Lægefaglig basis for sygehusvæsenets struktur. Kvalitet, organisation, uddannelse og forskning i den funktionsbærende enhed.* Århus: Lægeforeningens Forlag.

Den Store Danske Encyclopædi (1997): *Hospital*. Copenhagen: Gyldendal.

Gyldendals Etbinds Leksikon (1988) *"Fakta"*. Copenhagen: Gyldendal.

Indenrigs- og Sundhedsministerens Rådgivende Udvalg (2003)

Indenrigs- og Sundhedsministerens Rådgivende Udvalg (2002)

Perspektivplanredegørelse II (1973)

Produktivitetsudvalget (1984) Sygehusenes økonomi og organisation. *Copenhagen: Indenrigsministeriet.*

Regeringen [the Government] (1999) *Regeringens oplæg til Strategi for sygehuspolitikken 2000-2002*

Sundhedsstyrelsen (2001) Produktionen på Sygehuse. *Copenhagen: Sundhedsstyrelsen.*

Sygehuskommissionen [the Hospital Commission] (1984) *Sygehusenes organisation og økonomi.* Copenhagen: Indenrigsministeriet.

Sundhedsministeriet [the Ministry of Health] (1994) *Rapport fra Udvalget vedrørende sygehusvæsenets økonomi.* Copenhagen: Sundhedsministeriet.

Sygehuskommissionen [the Hospital Commission] (1997) *'Udfordringer i Sygehusvæsenet'* Betænkning fra Sygehuskommissionen. Copenhagen: Betænkning nr. 1329.

Sundhedsstyrelsen [the National Board of Health] (1998) *Kvalitet i sygehusvæsenet. Befolkningsgrundlagets betydning for kvalitet i patientbehandling, uddannelse og forskning.* Debatoplæg, Sundhedsstyrelsen

Appendixes

Appendix 1: The historical development in the population of hospitals (Table 2.7.1)

Figure 2: The location of hospitals (from the Hospital Commission (Sygehuskommissionen))

Figure 3: The 14 counties

Table 4: Small somatic hospitals (Table 2.1)

Figure 5: Projects and spheres around the hospital institution approx. 1970.

Figure 6: Projects and spheres around the hospital institution approx. 2000