Occupational Therapy in Housing
Building on Firm Foundations

Edited by
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John Swain is Professor of Disability and Inclusion at the University of Northumbria. His research interests include the analysis of policy and professional practice from the viewpoints and experiences of disabled people. He has written and researched widely in this area.

Andrew Winfield has worked in local government for more than twenty years. He spent six years working in benchmarking with Welsh local government focusing on performance measurement and comparison,
developing practice standards, and training and applying the principles of performance management. He has recently taken up a post with Torridge District Council in north Devon.
Preface

This book aims to provide occupational therapists with firm foundations on which to build their understanding and practice in housing work.

It grew out of the need, recognised by the College of Occupational Therapists’ Specialist Section in Housing (COTSSIH), for undergraduate occupational therapists and occupational therapists newly moving into housing to have access to a text which was inspirational and drew together the various theory bases on which this eclectic aspect of the profession rested. It is part of the mission of the Specialist Section to develop this area of occupational therapy and improve outcomes for the users of our services. The editors are keen to publish a common approach to applying the principles of best practice in housing from an occupational therapy perspective in a socio-political context, where occupational therapists as designers understand the reality of the demands of the situation, the diversity of users’ perspectives, building codes and statutory regulatory systems, and the regulation and inspection of their professional practice.

Designing new-build properties and redesigning properties, or parts of properties, as enabling environments in which to live and carry out meaningful occupations has been part of the core workload of occupational therapists in the UK for a very long time. The therapist generation to which the editors belong can reach back to learning from the experience of occupational therapists practising in the 1960s. This is an impressive history of practice to draw upon but has mostly been in the form of rich personal reflection on practice rather than written text.

While some areas of occupational therapy based on medical specialty can show a very well-boundaried and focused theory and evidence base, work with housing crosses a number of theory domain boundaries. The creative interaction of concepts and practices brought together by these breaches of discipline boundaries has been part of the joy of working in such a rapidly developing field.

The characteristic of practice in the field now, as in the 1960s, is that of a ‘hands on’ approach. Occupational therapists would wish to ‘get on
with the job’ and find out what would work best by trying it out. These practitioners have also been curious about what related areas – ergonomics and construction disciplines, for instance – could offer in the way of ideas and support. Thus a range of theory and concepts has come into use in daily professional practice without a pressing need being felt for presenting a coherent account of them to the world. The theories and practices have been passed on from supervisor to student and shared between interested practitioners.

This book is part of the work of COTSSIH aiming to present the theory and evidence base for occupational therapy in housing in a more accessible manner for learners and all other interested parties. Having such a lively practice base, it is appropriate that a presentation of theory should grow out of that practice. The larger proportion of the authors is thus currently active as practitioner occupational therapists and others are educators and researchers in the field of occupational therapy. Alongside this, academics in social policy, disability issues and managers are represented. Although the content of this book is grounded in the experience of UK practitioners, the editors believe this situated practice which takes account of local culture, social history and legal frameworks will demonstrate principles and approaches applicable to practitioners in other countries with their own socio-political backgrounds.

The editors hope that this book conveys how challenging and satisfying such a creative endeavour as occupational therapy work in housing can be. We also hope that our service users find the outcome of those endeavours to be just as satisfying.
CHAPTER 1

The theory bases

JANI GRISBROOKE

Working with housing and people’s homes, housing professionals require a different background understanding and extension of professional skills to those used to working with a healthcare team in a hospital or a community setting.

In this chapter, the theory bases which underlie what occupational therapists do with housing work, why they do it and how they do it will be examined. The sections of this chapter link to and are introductory to later chapters which cover occupational therapist practice in the field.

Theory bases identified include:

• socio-political approaches (citizenship, rights, civil rights and social policy, control of the professions);
• occupational therapy approaches (problem-solving, environment as a term, Reed and Sanderson, person-environment-occupations model, Person-Environment-Occupational Performance Model, occupational science);
• construction and design theory bases (ergonomics, building and planning);
• biomedical/health theory base;
• two issues not in themselves theory bases (care management and evidence-based practice).

Introduction

Working with housing means working with a phenomenon which is both universal, since most people in the world live in built accommodation, but which is culturally specific in that techniques, traditions, methods and materials for building vary across countries and ethnic groups. The experience of working with housing adaptations as an occupational therapist is also nationally specific since the ways in which adaptations for people
with disabilities may be funded and the degree to which this is seen as a social or private matter vary from state to state as does underpinning legislation for regulation of building practices. This book is written from a British perspective and so, although the principles will be applicable in other states and cultures, the impact of local traditions, legislation and building practices will make some of the content specifically British.

Within this chapter, the eclectic nature of the theoretical underpinnings of occupational therapy practice with housing will be examined. Occupational therapy in housing in Britain has grown up as a praxis. Processes and ideas which had good outcomes were shared and solutions found for problems facing people living their lives in environments which provided barriers for them. A creative, problem-solving endeavour gave satisfying challenges to generations of British occupational therapists. How to manage problems has been the driver for professionals, and want of a systematic theory to account for that practice has not seemed to hold back the practitioners. Perhaps the opportunity to work in this area supported by the history of public funding of adaptations for people with disabilities has added to the growth in terms of interest and numbers of occupational therapists working in this area in Britain.

However, a need for some theory and underpinning concepts has been felt over time. Rather than systematically provide one of their own, pragmatic occupational therapists have borrowed concepts, theories and approaches from the range of other disciplines with whom they collaborate in housing work. These have become useful adjuncts to the creative process of occupational therapy. Some of the major borrowings are considered in this chapter alongside the unfinished task of theorising environmental and housing work from an occupational therapy perspective. This is a critical time for occupational therapy theory in the housing domain as the drive to ground practice in evidence directs professions to systematise their knowledge and skill bases, and so this is also a good time to review the theory bases from which occupational therapists operate.

**Range of theory bases**

For people who use the services of an occupational therapist (OT) within a housing context, the OT will access:

- theory bases underpinning and forming the service within which the OT is situated (*socio-political approaches*);
- a theory and skill base of occupational therapy appropriate to the service user’s needs (*OT approaches*);
- theory bases of design and construction (*ergonomics and building/designing/planning approaches*);
• a theory base about impairment and medical pathology if this is relevant to the service user’s situation (*biomedical science*);
• factors which affect practice but which are not in themselves theory bases (*care management and evidence-based practice*).

**Socio-political approaches**

The themes chosen to introduce some socio-political approaches – citizenship and rights, people and professionals – are currently contested issues with direct impact on professionals, services and people who access those services.

**Citizenship in Britain**

Our understanding of who our service is for as occupational therapists, what it is for and how it is delivered can be shaped subtly by the situation in which we are working. For housing work within a local authority context (which is where the majority but not all of it happens), occupational therapists are currently delivering a service to citizens who have a right to that service (DoH, 1998). Occupational therapists therefore need to appreciate the current debates around the issue of citizenship in order to frame services appropriately through understanding what it means to be a citizen.

Citizenship is an identity which has been increasingly discussed politically and in the media since the 1990s, but citizenship can mean different things in different contexts. The idea of ‘good citizenship’ embodied in the Neighbourhood Watch, a government-sponsored scheme by which people volunteer to look out for untoward occurrences in their own street, may not necessarily be the same citizenship envisaged in housing policy such as social landlordship with respect to housing associations, which are organisations designed to provide affordable housing for rent. Two ways of being a good citizen are illustrated in these examples. The first can be interpreted as making sure that fellow citizens’ property-owning and public service rights are respected. Here individual citizens ‘own’ property and public service rights and a fellow citizen’s duty is to support these rights. The second can be interpreted as recognising that not all people in society have the same opportunities and possibilities but, as fellow citizens, still have rights to a reasonable standard of living. Here the citizen has a duty within society as a whole to support its weaker members. So citizenship is a term which can be applied with some flexibility of meaning.

Heater (1990) suggests that citizenship is a dual form of identity. At one level ‘A citizen is someone who has political freedom and responsibility’
(p. 183). She has grown into this freedom socially through participation in society and education. At another level, citizenship may be the common overlay to diverse cultural identities so that the identity of ‘Britishness’ covers people from Newcastle and St Ives, lorry drivers and theatre designers, humanists and Muslims, people of Norman descent and people of Afro-Caribbean descent. On the other hand, citizenship of Manchester may be of much more personal significance than citizenship of Britain. These citizenships may even be in conflict if local and national policies (e.g. employment, housing, education) are not in harmony. Currently, with devolution of powers from Westminster to the Scottish Parliament and Welsh Assembly (the situation in Northern Ireland is a little more complex), we are also struggling with Welsh, Scottish, Irish and English citizen identities over and against Britishness. Clearly, citizenship is a shifting concept, a shifting identity. However, as occupational therapists we have to struggle with the concept and the identities because on them depends whom we serve and how.

Rights

Citizens have rights and obligations to each other and to the state from which they derive that citizenship. Rights come in a variety of categories: positive (the right to something), negative (the right not to have something inflicted on you), human (the right not to be tortured or suffer inhuman treatment), political (the right to vote), civil (the right to freedom from discrimination on grounds of gender) and finally a contested category of social and economic rights (to education and a basic wage) (Plant, 1991).

Rights shift within a cultural and political context and between states. They are upholdable in law and many have reciprocal obligations attached. For instance, the right to education for all children in this country comes under the Education Acts (1944, 1981, 1993, 1996). The obligation on the parents is to ensure that their children attend that educational provision.

If rights are not upholdable in law, it is debatable whether they exist or are simply custom and practice. Thus it is worth clarifying which of your client’s rights are rights and which are local practice. For instance, the mandatory Disabled Facilities Grant, which is the statutory provision available to people with disabilities to make alterations to the structure of the home so that essential facilities are available to them, is upholdable in housing law. However, if facilities and equipment are provided alongside this, they may be assessed by criteria agreed locally and so provision of these will be a softer right and will vary from local authority to local authority. Even these softer rights may have some basis in legal guidelines.
established through case law (i.e. the body of legal decisions made on particular cases and which are applied to subsequent cases which have similar principles involved). Such guidelines could offer support for a challenge in the courts to local practice. These points illustrate why an occupational therapist needs an underpinning knowledge of the complex areas of housing and community care law (Mandelstam, 1998). Also bear in mind that law, and particularly its interpretation in cases, changes over time. For instance, we are currently witnessing the impact of the Human Rights Act 1998 on a variety of areas of practice, and so a practitioner’s knowledge in this area will need updating.

Civil rights

The right for all citizens to have an equal opportunity to participate in society, in political activity, education and work, has been upheld in the various anti-discrimination laws, most recently disability anti-discrimination legislation in the Disability Discrimination Act 1995.

The passing of this Act was an interesting illustration of the conflict between a rights-based view of disability affecting all areas of life and the tendency of our central political administration to deal with issues in a fragmented manner within established bureaucratic departments. Departments responsible for health care, education and housing all have a responsibility for aspects of the lives of people with disability. It was also an illustration of vested economic interests, such as the construction industry, being drawn into the political process and of cross-party support for a particular issue raised by the various organisations which make up the disability movement (Goldsmith, 1997).

The position of the disability movement is based in the establishment of the Social Model of Disability as opposed to the Medical Model (Oliver, 1999). Within this model, disability is not the tragic consequence of impairment to the individual but is a problem of a society which creates barriers to the individual’s participation in society. Thus it is not the problem of the individual that wheelchair access is denied but the problem of a society which allows the construction of buildings which shut people out. Goldsmith (1997) goes further and identifies a form of architectural discrimination by which the design of buildings makes them difficult to use not only for people with specific impairments but also, for example, for women with children.

The problem of the fragmentation of responsibility for disability rights between a range of statutes and government departments was compounded by the problem of the difference previously referred to between rights which are available in law and rights which are accessible. So, for instance, you will only claim a right if you are aware of it (i.e. is you are
aware that you have an entitlement to service or facility provision under particular legislation) and if the local system for advice and funding is in place by which you can put it into operation.

The Disability Discrimination Act 1995 did not give overarching civil rights to people with disabilities but remained fragmented in approach. Educational issues, for instance, are still dealt with under Education and Children Acts, not this act. However, it did establish that there is cross-party political and popular will to view disability issues from a civil rights perspective. As part of the package to support this act, there was also a practical alteration of Building Regulations to cover new-build construction of domestic dwellings requiring a visitability standard of new-build home accessibility. Part M of the Building Regulations 1991 was updated in 1998 and supported by Approved Document Part M: Access and Facilities for Disabled People, 1999 Edition. A further revision is currently in progress at the time of writing.

Social policy

The British context in which these civil rights issues are debated and the legislation framed is that of re-evaluating the social concepts of welfare and particularly the welfare state. There is a tension at the heart of this British style approach to welfare, between individual need and collective provision, between the safety net concept of collective responsibility from the early welfare state and the individualist, self-reliant ideology of the 1980s and 1990s (Jones, 2000).

The Labour government’s approach from 1997 has been to promote partnership between welfare and voluntary agencies and for funding to be allocated within jointly planned commissions rather than by competitive contract tender as had been the case in the 1980s–90s’ heyday of introducing business practice and competition into health and welfare services (DoH, 1997, 1998). However, the concept, if not the catchphrase, of value for money continues with policies for evaluating local authority social services performance entitled ‘Best Value’.

The central figures in planning of British social welfare from 1997 have been the stakeholders (DoH, 1997). The stakeholders are part of the idea that social problems cannot be tackled by any one agency alone. For example, it is a key health promotion concept that health is affected by lifestyle choices or lack of them, housing conditions, occupational hazards in employment or unemployment and educational opportunities or achievements. Thus the concept of partnership, which requires that agencies work together, arises from a view of the causes of social problems. However, the service users are one stakeholder among many.
Any change in social policy governing welfare provision has to meet the challenges of supporting members of a society in which the age balance is shifting, family structure and expectations are changing and in which the civil right of the individual is an increasingly understood and accepted social concept. Social policy in the form of law and its interpretation locally and nationally is tested in the courts through cases brought by individuals, or by lobby groups on behalf of individuals, against policies of welfare agencies which prevent people exercising or accessing those rights (Oliver, 1999). Professionals working in housing and social services agencies can become part of such cases, and occupational therapists are becoming more aware of their chances of involvement in such litigation either as a party in such a case or as an expert witness.

Working within a local authority context, it is also useful to bear in mind that the government of the day may or may not be reflected in the elected membership of the local authority. This can accentuate a difference in the local interpretation of policies fed down from the centre. While such differences and changes in policy may seem a little arbitrary and confusing to professional and user alike, it is part of the purpose of local authorities to reflect local differences and for local politics to modify national policies.

Some policy affecting local services is derived from global organisations by whose aims and agendas national government is influenced. The World Health Organisation Classification of Functioning, Disability and Health, which is a formative policy of how health and social care services structure their understanding of people with disabilities, has set itself a classification structure which does not accept terminology primarily of medical conditions and language. Instead, the categories for classification are body functions and structures, activities, participation and environmental factors (WHO, 2001). The underlying assumption is of an embodied person who will be active, participate fully in their social context and will find either support or barriers in the surrounding physical and social environment. This is a design which favours both the autonomy of the individual, by emphasising active aspects of life in which they may be self-directing, and also favours the values and practices of occupational therapists through concern for activities and participation (Chard, 2004).

Thus social policy and therefore local practice does shift over time as a new approach is taken on and an old one set aside. Keeping in touch with current social policy and identifying the current themes can help the practitioner understand how and why local policies are changing. It can even help the practitioner to be proactive in local change, ensuring that the voices of both users and professionals are heard by local decision-makers.
Postmodernism and the professions

Another of the current social policy debates is about the control of the professions: how do we demonstrate continuing proficiency in our fields, who checks that we are operating within the limits of our understanding and skill and who has the right to stop us practising?

Within the welfare systems, the NHS has introduced Clinical Governance (DoH, 1997; DoH, 1998) which requires within its quality remit that professionals demonstrate a currency of skill and knowledge. With the NHS Act 1999 comes a debate within the profession on how we will demonstrate to the new Health Professions Council our continuing competence to practise as therapists.

However, behind arguments about how to control professions, often carried out in glaring publicity, is a critique going back to Illich (1977) which questions whether the professions are as altruistic as they would like to think or whether they shape beliefs, events and policies to maintain their own prestige and status. It may even be that things are made worse for the users to maintain the professionals’ ways of working.

Postmodern commentators go further. Taking the analysis particularly from the work of the French philosopher Foucault, a profession is a profession by virtue of its discipline. A discipline is both a body of knowledge or skill and also the way in which that knowledge and skill is exercised as power over others – the service users (Leonard, 1997). In exercising the discipline, the professional turns a disciplinary gaze upon the service user. Within this context, the user will give the professional information upon which the professional is empowered, legally and socially, to pass judgement. Is this true or false? Is this significant or insignificant? By this process the user is voluntarily subordinated – but, voluntary or not, it is still subordination. Within this context, the professional ultimately acts as an agent of state control answering questions such as: should this person be treated as mad? should this person receive this grant? how independent should this person be? From this perspective, it is understandably necessary for the state to exercise either immediate or remote control over what the professionals do.

Professionals taking a postmodern perspective on their work would promote the valuing of diversity and difference, support marginalised voices by ensuring that those who are shut out from access to social power get a hearing and work in smaller organisations nearer to the people served by them (Leonard, 1997). This is not far from the view of the disability movement:

when confronted with decisions about scarce resources, professionals have usually sided with their management rather than with disabled people and our organisations in mounting political challenges to the unacceptability of such rationing. (Oliver, 1999, p. 379)
There is evidence that the profession is attempting to allow the user’s voice a place in consideration of practice. For example, Winfield (2003) uses the opinion section of the *British Journal of Occupational Therapy* for a piece outlining his experience of helpful and unhelpful occupational therapy practice as it affected him in acquiring an adaptation. He is himself an academic and therefore perhaps a privileged voice and one which had the background more likely to allow him to be heard. However, this is the official journal of the British College of Occupational Therapists and thus his views reach and influence the full range of occupational therapists working in this country plus any overseas occupational therapists and researchers who use the journal as a reference source.

More systematically, Picking and Pain (2003) collected and analysed users’ perspectives from 17 people who had experienced the middle range of complexity adaptations using focus groups. Alongside the process elements of their recommendations are professionals’ qualities which the participants valued, including an understanding attitude, gentleness in encouraging decision-making and being sensitive to clients’ needs in providing the right information at the right time to help decision-making progress.

A postmodern analysis of professionals says something to us about how we may act and relate to the users of our services as well as the organisations in which we could work.

Where, how and with whom we work in future depends on this kind of socio-political debate. Citizenship and rights are concepts currently being contested and so likely to remain debated issues for some time. Social policy and thus service provision will reflect the development and outcome of this debate.

**More on socio-political perspectives**

The socio-political perspectives related to occupational therapy practice are further considered in later chapters, including Chapter 2 (‘The assessment process’), Chapter 3 (‘The social model and clinical reasoning’) and Chapter 4 (‘Housing: the user’s perspective’).

**Theory bases of occupational therapy**

There is currently a good range of occupational therapy theories and models of practice to choose from in different areas of work and for different clients. It should be borne in mind that many, if not most, were not developed in this country or for these styles of housing service provision. Some models and their attendant assessment tools have been tested cross-culturally and some have not. In this section the generic problem-solving
model will be considered together with models which have a concern for the physical environment.

**Problem-solving process**

Hagedorn (2001) sees problem-solving as a cognitive process rather than a theory. It is applicable to any professional intervention as the content of each stage is open to the decision of the individual using it. In a sense its usefulness lies in delaying the leap from seeing a problem to suggesting a solution: in closing to a decision too soon some other options may be missed.

Hagedorn describes problem-naming, problem-framing and problem-solving as the three parts of the process. Problem-naming is part of a client-centred approach which enables the client to identify the problem. For problem-framing, she gives the example (Hagedorn, 2001, p. 51) that a problem with going out of the house may be a problem framed as a mobility issue (quality of gait), a motivation issue (lack of interest) or an environmental barrier issue (steps). It is only when these two parts are complete that client-centred goal-setting can begin.

Problem-solving as part of the occupational therapy process begins with data collection. This may start with information given in referral or self-referral. It may be relevant to gather some background information at this early stage but often this will develop alongside problem identification, which will be made with the client and normally in the home setting. Making sure that there is agreement on the problem will allow the stage of identifying the desired outcome to be achieved more easily. It is also worthwhile ensuring agreement on what are the primary and what are the subsidiary problems. If there is a point in the process at which it becomes clear that not all the problems can be dealt with together, choices will be easier with the problem hierarchy already laid out. For the experienced therapist, cues may be identified which allow for a short cut to be made.

The desired outcome will often be expressed in terms of client function, for example ‘The client will be able to go upstairs independently’ or ‘The client will be able to carry hot kitchenware without dropping it.’ From identification of the desired outcome, solutions may be developed. This is the creative aspect to the model as the outcomes can only be as good as the ideas developed at this point. Some people are naturally gifted in being able to generate ideas spontaneously towards solutions, and others develop a good memory for the range of solutions they have used in the past or have seen others try out.

The range of solutions may be evaluated or appraised to choose the best fit for a client’s wishes and function within a built environment. The extent to which options should be excluded from client appraisal...
because they are expensive or unwieldy is an ethical decision. Do you
share an idea you know will never be funded and possibly disappoint the
client and is it a waste of a client’s time to pore over an idea which is
technically difficult and hence unlikely to meet building professionals
approval?

Having chosen an option, an action plan is developed and the solution
implemented and any progress monitored. A final evaluation is made on
completion, and, if another problem is identified at this stage, the cycle
starts again.

The environment

‘Environment’ is a term with multiple usages for occupational therapists.
While in daily usage for occupational therapists working in housing it
tends to refer to the built environment, Hagedorn (1995, p. 94) considers
its usage in occupational therapy theory in the sense of the cultural and
social environment as well. This is not a major problem for practitioners
as the object of work in housing is not just the built environment but the
way that people live their daily lives within that built environment. This
will automatically include issues of how activities are carried out, by
whom, with whom and when.

Occupational therapy models and the built environment

Most, if not all, models of occupational therapy practice would claim to
consider the built environment within their remit. However, it is clearer
that the built environment is an intrinsic element rather than a bolt-on
extra for those models which explicitly use the term ‘environment’ along-
side ‘person’ and ‘occupation’ or ‘occupational performance’.

For example, while Reed and Sanderson (1992) offer a detailed analy-
sis of occupations and occupational performance skills, they suggest that
changing the environment is only considered when enabling perform-
ance in normal mode or changing that method of performance have
failed. While changing the environment is a solution which tends to come
after changing the performance mode, this approach to environment
implicitly offers a rather negative view for therapists dealing with clients
requiring environmental change. It also means most of the model will be
grounded towards intervention prior to this failure and so not particularly
friendly to housing work.

In contrast, the Person-Environment-Occupational Performance Model
(subtitled ‘a transactive approach to occupational performance’) works
towards an optimum occupational performance by the person through
establishing a congruence or at least a good fit between the triad of person,
environment and occupation (Law et al., 1997, p. 93). Altering one aspect of the triad will affect the other two. The environment here includes the multiple meanings as discussed above but explicitly includes the physical environment as a particular consideration. The term ‘transactive’ seeks to capture an impression of the constantly changing nature of how people carry out their tasks over time within their environments. The model is Canadian and incorporates the Canadian Association of Occupational Therapists’ guidelines on client-centred practice.

The Person-Environment-Occupational Performance Model (Christiansen and Baum, 1997, p. 87) also gives explicit validity to the consideration of the environment when assessing the person and their occupational performance. In this model the environment is seen as one of the extrinsic enablers of performance (Christiansen and Baum, 1997, p. 62) along with cultural, social and societal enablers. The demands the environment makes on a person acts by arousal (i.e. level of alertness) influencing whether and how an activity is carried out. The model is North American in origin.

There is still room for a model of occupational therapy practice which gives more consideration to the built environment. Meanwhile, the practising occupational therapist has increasing access to standardised assessments for community work. For instance, the ‘Community Dependency Index’ is specifically designed for assessment and outcome measurement in OT intervention (Eakin and Baird, 1995). The ‘Housing Enabler’ is a tool developed in Sweden which specifically assesses housing accessibility and has been shown to have a level of reliability. Its theoretical basis is explicitly linked to models which have a concern for the relationship between the person and the environment and the functional effect of altering environmental demand (Iwarsson, 1999). This tool has recently been extended to cover public buildings (Iwarsson et al., 2004).

Hagedorn (2000) distinguishes between a micro analysis of the near environment, as at a work station, and analysis of the used environment including a home and its curtilage, together with outside areas relevant to the person’s valued activities whether paid or unpaid. She gives a detailed outline of the content of home assessments, the analysis of findings and making adaptations, all of which are pertinent and useful to occupational therapists working in the housing field. This is a comprehensive and relevant description of the process of assessment and making recommendations, not a model or a theory. It has practical application to professional practice rather than attempting a theory for that practice.

Finally, the emerging discipline of Occupational Science, which studies all aspects of human occupation, considers it important that these occupations should be studied within the contexts of their physical
environments (Henderson, 1996). It may be that in future a taxonomy will be agreed to designate the range of an environment since an environment which is within what ergonomists would term the zone of comfortable or extended reach from the body is very different from that which a person needs to negotiate in order to reach the garage or the shops.

More on occupational therapy issues in practice

Occupational therapy issues in practice are further considered in later chapters, including Chapter 2 (‘The assessment process’), Chapter 3 (‘The social model and clinical reasoning’) and Chapter 8 (‘Ergonomics and housing’).

Theory bases of design and construction

Ergonomics

This specialism has been interdisciplinary since its inception during the Second World War and may be defined as the ‘science of fitting the job to the worker and the product to the user’ (Pheasant, 1996, p. 5). Its uses range from design of whole working systems such as nuclear power stations, through equipment designs for industrial and domestic use and task designs to reduce health and safety risks right down to designs for better handles for a favourite coffee mug.

For the occupational therapist involved in housing, ergonomics assists with the design of domestic workstations (e.g. kitchen and bathroom) and analysis of the tasks undertaken in these domestic workstations.

An ergonomic task analysis consists of a breakdown of the activity under investigation into its component physical and cognitive parts, a biomechanical analysis of the forces affecting the body during the activity linked with the muscle action and effort required by the activity. The task analysis will take into account the physical environment in which the activity is carried out, including less concrete aspects such as illumination and temperature, and the general and specific risks inherent in the task. This analysis may have general application when shown to hold for an appropriate sample of a population, or have specific application for an individual when carried out as a single analysis. In the case of a specific application for an individual, the ergonomic task analysis is closely allied to an occupational therapy task analysis which is a core occupational therapy skill.

An example of analysis with wide application might be developing design principles for kitchen layout (Pheasant, 1996), for example the sequence of use of areas within the kitchen, for a right-handed person,
tends to be from sink to work surface to cooking heat source to another work surface. The fridge, the sink and cooker form a triangle of most frequently used points for the general population. Goldsmith (1963) shows how this differs for a population with ‘disability’.

Examples of analysis in the field with a single individual can range from the broad analysis of use of the home kitchen workstation by a particular person with a particular impairment and a particular lifestyle to the more intensive concentration on one aspect of an activity which is causing a problem, such as moving items from cupboard to work surface. Ergonomic analysis may also help give prominence to those aspects of task analysis sometimes ignored in the domestic setting, for example how does the quality, source and direction of light affect the task and how do signs, symbols and colours combine to allow the individual to control the task and equipment safely?

The design of furniture, storage and fittings for domestic environments is influenced by ergonomic theory and data. Occupational therapists find it helpful to have an awareness in particular of the branch of ergonomics concerned with identifying the measurements which will guide these designs – anthropometrics. All the equipment and furniture generally available on the market will be measured to these standards. So, for example, all working surfaces for tables and worktops will be set at a height which 95 per cent of the population will be able to use. The units for a wheelchair kitchen will likewise be set at a height which 95 per cent of the wheelchair-using population can manage. This 95th percentile rule allows an accommodation between the cost of production and the variety of need in a diverse population. Your particular client’s measurements may or may not lie within the 95th percentile. The compromise between your client’s needs and those of the rest of the family may not lie within this range, but to take the measurements outside of this standard is likely to raise costs as mass-produced kitchen units will need adapting.

Ergonomic principles will also underpin your approach to issues of moving and handling people (BackCare, 1999). In this case, you will be assessing hazards and risks inherent in and associated with the moving and handling task, looking to avoid hazards where possible and reduce risks. While moving and handling may appear to be a function of the client and carer rather than of the housing, environmental considerations affecting the moving and handling task are central to the assessment of risk and recommendations for practice. It is therefore necessary to consider issues of moving and handling alongside potential adaptations. For instance, where a person requires a hoist for their moving and handling needs, will the ground floor bedsit extension offer enough access for a mobile hoist to be used alongside the bed and any other fittings or does