

Title: **Cognition, Brain and Consciousness. Introduction to Cognitive Neuroscience. Second edition.**

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The book *Cognition, Brain and Consciousness: An Introduction to Cognitive Neurosciences* looks like an intimidating book based on its size and weight! However, it is actually an accessible introductory text for those interested in Neurosciences. The authors state the purpose of the book is to enable the reader to keep up to date with this ever- changing field. The up to date research included is particularly excellent. There are information boxes in each chapter titled "Frontiers in Cognitive Neurosciences" that are fascinating as they showcase scientists in the field who are doing different and ground breaking research. Throughout the book there are references to the anatomical structures and physiology involved in the processes. Most chapters also give some history on the particular topic and give clinical examples of how dysfunction in a particular area would present. Each chapter ends with study questions or a chapter review making it a text that students could use in their study of the particular subject.

The first two chapters are introductions to this enormously complex topic. Chapter two specifically focuses on a framework for organising cognitive neurosciences. This framework is an excellent scaffold for understanding the information in the book and even other aspects of cognition and perception not covered in detail. Throughout the rest of the book this framework is referred to.

Chapters three, four and five focus specifically on the anatomy and physiology of cognition and neuroscience. Anatomy is discussed on both a macro and microscopic level, including recapping concepts such as tracts, mapping and imaging of the brain. Physiological concepts such as neuronal connections, measuring signals and functional roles of the brain are also covered. All of these three chapters have clear colour diagrams to explain the concepts.

Chapters six and seven cover Vision and Hearing and Speech. Both chapters start with an introduction to the particular sense followed by an depth look at the anatomy of the system. The chapter on vision highlights some of the dysfunction that may occur within this system and introduces some aspects of perception. The Hearing and Speech chapter does not only look at speech but also at music perception and how learning and plasticity occur within this system.

The next three chapters are Consciousness and Attention, Learning and Memory and Thinking and Problem solving. Chapter eight (Consciousness and Attention) starts by exploring sleep and waking and then explains the importance of attention for other functions such as perception, cognition and learning. This chapter ends with a section on putting it all together which looks at some popular notions about consciousness and attention. The Learning and Memory chapter (Chapter nine) focuses mainly on memory, including how memory happens, types of memory and the anatomy of memory and amnesia. More information on learning would have been useful in this section. Thinking and problem solving (Chapter ten) looks at implicit and explicit problem solving

and also explains how one uses pre-existing knowledge.

Chapter 11 on Language and chapter 12 on Goals, Executive control and Action continue the customary layout of the chapters by giving comprehensive details on the anatomy of these functions. The language chapter also qualifies the difference between speech and language and looks extensively at words and their meanings. Chapter 12 extensively examines the different aspects of the executive brain and relates this to the anatomy of the brain. This chapter also concentrates on the implications of dysfunction of the frontal lobes which is particularly relevant to us as Occupational Therapists (OTs).

The following two chapters are on Emotion and Social cognition. The chapter on Emotion (Chapter 13) uses Panksepp's definition of an emotional brain to describe how emotions motivate us and how emotions interact with cognition, the executive brain and consciousness. This chapter also describes in more detail the fear and the reward system. Chapter 14 on Social Cognition explains how we perceive the mental states of others. The chapter explains a framework for this complex area and gives examples of how we use different mechanisms to interact meaningfully with others.

The penultimate chapter, Chapter 15, is on development. This chapter focuses mainly on the early stages of life, including prenatal development, due to the massive growth seen during this period. There is also a section on early brain damage and plasticity which is relevant to OT practitioners. The final chapter on genes and molecules of cognition is a new addition in this second edition of the book. It introduces enzymes, neuromodulators and genes and their role in cognition, as well as recapping the neuron and synapses and how these operate. The final section of this chapter looks at learning, on a molecular level which will be of particular interest to those practitioners involved in learning disorders.

Lastly there is an appendix which describes the different ways we can observe the living brain through neuroimaging. This appendix looks at different methods such as Positron emission tomography (PET) and functional Magnetic resonance imaging (fMRI) and how the tests are done as well as what they can be used for.

The colour pictures in all sections and interesting quotes at the beginning of each chapter contribute to making this an engrossing book to read. The inclusive glossary included at the end of the book is a quick, easy to use reference. Although none of the clinical examples are within a South African context they can easily be applied to our context due to their universality. The book is not specifically aimed at OTs and some of the detailed anatomical and physiological descriptions may not be relevant but as background reading to this multifaceted subject, it is an excellent book.

Cognition, Brain and Consciousness would be a useful book for postgraduate students specialising in this field. The excellent framework, clinical examples and continual reference to the anatomy of physiology of the different processes also make this an outstanding day to day reference for clinicians in the fields of neurology, learning disabilities and mental health.

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This long-awaited book aims at giving a voice to occupational therapists from Africa. It is the culmination of a dream of the members of the Occupational Therapy Africa Regional Group (OTARG) who, since its inception in 1966, visualised an "All African book on occupational therapy" (p16).

Occupational therapists working in Africa have developed unique skills to enable them to continue delivering services, despite having to cope with abject poverty and lack of resources. The "rich diversity of cultures, traditions and spirituality" (p17) in Africa and its influence on occupational therapy have been well described in this book, showing clearly how exciting and rewarding practising in Africa can be! Contributors include occupational therapists practising in countries such as Zambia, Malawi, Tanzania, Uganda and South Africa as well as international authors, many of whom are well-recognised locally and internationally for their contributions to occupational therapy.

The book consists of three parts:

Part one: Introduction

In Chapter one, the results of a survey of therapists on OTARG's mailing list are discussed. This chapter provides valuable insights as to the service settings in which occupational therapists work in both rural and urban areas in Africa, as well as the diversity of roles these therapists fulfil in their daily work, truly giving a voice to the occupational therapists participating in this study.

Part two: The African Context

Chapters two and three highlight the impact of culture on our occupations and emphasise not only the importance of cultural competence, but also the African occupational therapists' ability to adapt to different cultures. The impact of poverty and the African worldview on occupational therapy theory is discussed.

Chapter four describes the importance of a multidisciplinary approach in an African context of limited resources and emphasises the importance of team members such as the family and other non-traditional partners. Case studies illustrate how each client needed the OT to work with different "team members" in a unique way to ensure the best outcome.

Part three: Theory into practice

Chapter five describes the impact of poverty on occupational therapy services, assisting practitioners with strategies that will enable them to make a difference to service-users, as well as providing information on resources to combat the isolation that often faces therapists working in under-served and -resourced areas. Case studies illustrate different strategies to prevent the harsh effects of poverty.

Chapter six provides fundamentals, illustrated by case studies, on clinical reasoning and is aptly entitled: thinking in practice. This chapter explains the essence of clinical reasoning in simple, easily understandable language without detracting from the importance of "think[ing] carefully, evaluat[ing] the situation and decid[ing] on the most appropriate course of action" (p112).

Chapter seven provides invaluable information on the construction, production and use of low-cost assistive devices, aids and adapted equipment. Pictures and diagrams illustrate what these low-cost devices look like. Devices for use by adults and children are described and range from toys to adaptations to the home, devices for personal management and posture. A section on equipment donated from overseas provides pointers for safe usage thereof.

Chapter eight contributes to the knowledge-base of occupational therapy based on experiences of therapists practising in Tanzania. It describes a model of practice used in East Africa for mentally and physically challenged children. Diagrams elucidate the text and provide information on posture, seating, personal management and low-cost toys.

Chapter nine provides information on forensic occupational therapy for women and children and has a strong emphasis on the human rights of the imprisoned clients. The chapter describes the possible role of the occupational therapist working in a forensic setting, using two examples – one from Zambia, working with mentally ill prisoners and the other from Sudan, working with the children of imprisoned mothers. This chapter provides valuable insights into the roles of the occupational therapist providing services to these very vulnerable populations.

Chapter ten describes occupational therapy with children with developmental delay. First, an overview of the areas of development is given, after which, causes of developmental delay are discussed, followed by a discussion of occupational therapy intervention for children with physical, cognitive and social developmental difficulties.

The importance of early childhood intervention to minimise the impact of disabilities from a South African perspective, is discussed in Chapter eleven. Various challenges in early childhood intervention are described as well as considerations for intervention. The importance of play and providing positive experiences for children with disabilities are emphasised throughout the chapter. Pictures and a case study are used to apply the information provided in the chapter.

Chapters twelve and thirteen provide valuable insights into the impact of HIV on human occupations and the role of the occupational therapist in palliative care settings in Africa. The importance of both practice settings cannot be denied and case studies are used in both chapters to illustrate the role and value of the occupational therapist.

Chapter fourteen describes the role of the occupational therapist working with trauma survivors and explains the cultural aspects of trauma in an African context, with reference to aspects such as the importance of the traditional health practitioner, bewitchment and ancestral influences in the resolution of traumatic events, stigma, etc. Different interventions are discussed, including group work and debriefing. The chapter ends with a section in which pointers are given on sustaining community support groups.

The "vital role of occupational therapy" (p286) in psychiatry and mental health is discussed in Chapter fifteen, with reference to the prevalence of mental illness in Africa and cultural influences on mental illness, against the backdrop of poverty, lack of resources and poor service delivery (particularly in rural areas). The impact of mental illness on occupational performance is discussed. Case studies and pictures illustrate occupational therapy intervention with clients with mental illness, emphasising engagement in meaningful activities.

Chapters sixteen and seventeen provide invaluable information about developing services and focuses on the development of a Community Based Rehabilitation programme, whereas chapter seventeen focuses on developing occupational therapy services where previously there had been no service or infrastructure. Both these chapters will provide essential information not only to newly qualified therapists embarking on community service, but also experienced therapists developing new services in under-resourced communities and areas.



This book is written in a comfortable, easily readable language and provides examples of the different occupations in which Africans engage, with emphasis on the diversity in each occupation because of culture, traditions and spirituality. There are interesting reflections on occupational therapy theory in an African context characterised by a participative rather than individual culture and a worldview that considers the influence of the ancestors and witchcraft on the life journey of the individual and community. Full colour pictures and monochrome diagrams on almost every page of this book illustrate not only the context in which we practise in Africa, but also the ingenuity and innovation of occupational therapists and clients in Africa. Throughout the book, the impact of the culture and worldview of Africans as well as the impact of poverty not only on service-users, but also on the provision of services is highlighted, all the while celebrating the ingenuity and creativity of occupational therapists in and from Africa.

Whilst entire chapters are dedicated to traditional practice areas of psychiatry and paediatrics, the only limitation of this book lies

in the fact that there are no chapters dedicated to neurology and biomechanical rehabilitation in Africa. Limited information can be gleaned from the chapter on low-cost assistive devices and equipment for the rehabilitation of physical conditions in Africa.

This book provides an informative and inspiring reading experience and is bound to become a highly sought-after resource for every practitioner wanting to practise in Africa – student, occupational therapist and occupational therapy technician/assistant alike.

Royalties from the sale of *Occupational Therapy: An African Perspective* will accrue to OTARG to be used for bursaries for African occupational therapists to attend the OTARG Congresses. It is available via the OTARG website, as well as from selected Van Schaik bookstores and the editors.

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Focus and Scope of the Journal

The South African Journal of Occupational Therapy (SAJOT) is the official Journal of the Occupational therapy Association of South Africa and is a leading publication for research into occupational therapy in Africa. SAJOT publishes and disseminates research articles that contribute to the scientific knowledge of the profession and its outcomes with particular reference to service delivery in Africa. It provides a platform for debate about issues relevant to OT in Africa which will also contribute to the development of the profession worldwide.

Guidelines for publishing in the South African Journal of Occupational Therapy

The South African Journal of Occupational Therapy accepts scientific articles, scientific letters, literature reviews, book reviews, and biographies for publication. The language of the Journal is English although abstracts may be published in Afrikaans or the Vernacular.

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Categories of Submission

- ❖ Scientific Articles/Research articles
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The relevant guidelines to authors (which follow) must be consulted for the layout and the format of the article, tables, diagrams and referencing.

Scripts must be submitted via email or on a disk to the above address and the author must retain a copy. Please insert a note in the "footer" that gives the title of the article and the date at each submission. This is important for tracking purposes and will ensure that the correct version of the script is used for publication. This foot note will be removed at publication.

Title Page

Each manuscript must include a separate title page. This page should bear the title of the article, the name(s) of the author(s), academic degrees, present posts held, complete addresses, telephone numbers and fax numbers and E-mail addresses. Please include the ethics

clearance number if applicable to the study. The article itself should not contain information on the authors so that their anonymity is maintained during the peer review process.

References

Each reference in the text must be indicated by a number. This number should be inserted in superscript without brackets eg ¹². A reference list should be provided on a separate numbered page following the text. References must be cited in the order that they appear in the text and should adhere to the Vancouver system, for example:

Journal article

1. You CH, Lee KY, Chey RY, Menguy R. Predisposing locus for Alzheimer's disease on chromosome 21. *Lancet*, 1989; 1:325-330
[Author. Title. Journal, Year; Volume (no): Page numbers.]

Book

2. Colson JH, Armour WJ. *Sports injuries and their treatment*. 2nd rev.ed. London: S. Paul, 1986.
[Author. Title. Edition. City: Publishers, Year.]

Chapter in a Book

3. Weinstein L, Swartz MN. Pathologic properties of invading microorganisms. In: Sodeman WA Jr, Sodeman WA, editors. *Pathologic physiology: mechanisms of disease*. Philadelphia: Saunders, 1974:456-72.

World Wide Web (WWW) sites

4. Burka, LP. "A hypertext history of multi-user dimensions." *MUD History*. 1993.
<<http://www.ccs.neu.edu/home/lpb/mud-history.html>> (5 Dec 1994)
[Author. "Document Title." *Title Complete Works*. Date/last revision. <http address> (Date of visit)]

