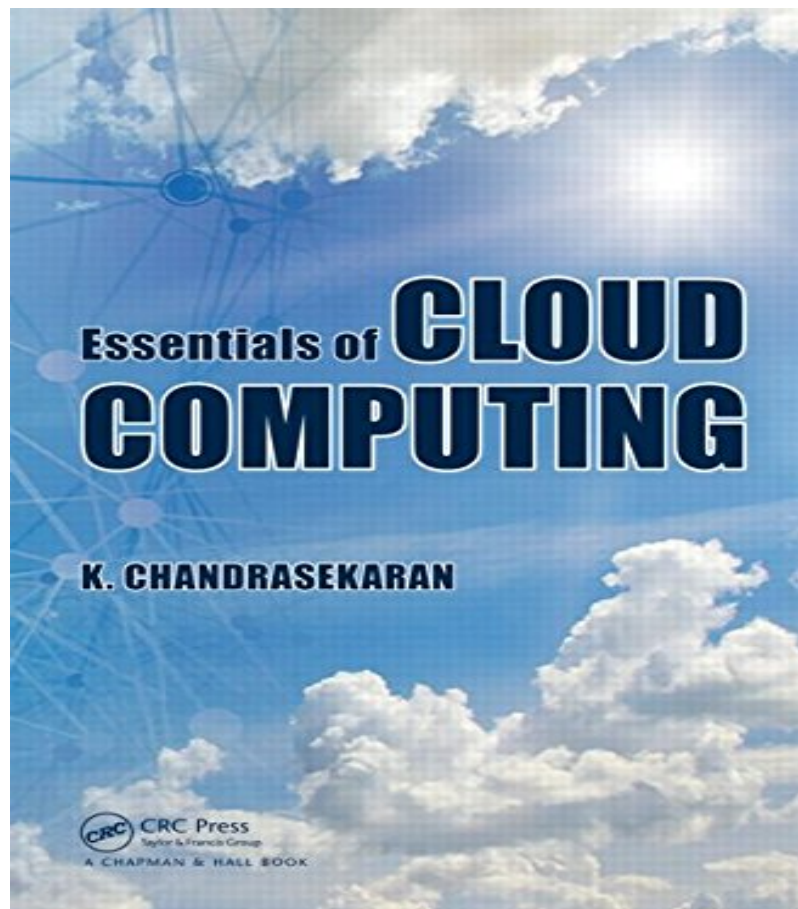


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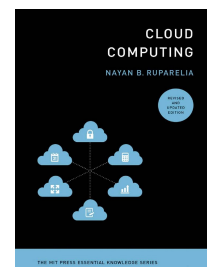


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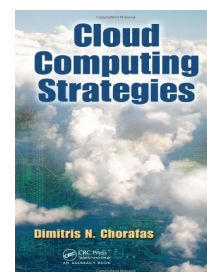
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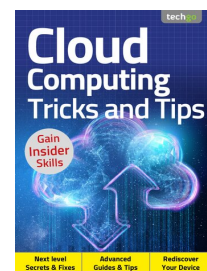
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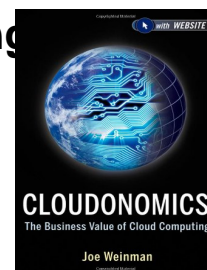
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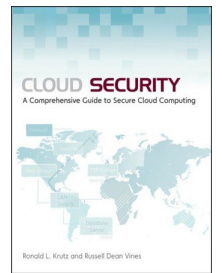
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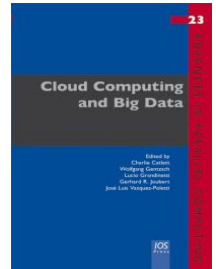
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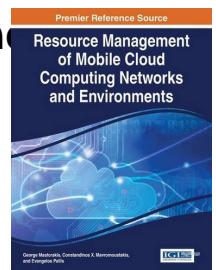
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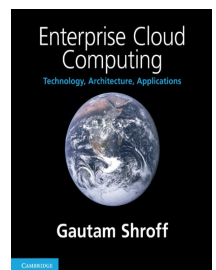
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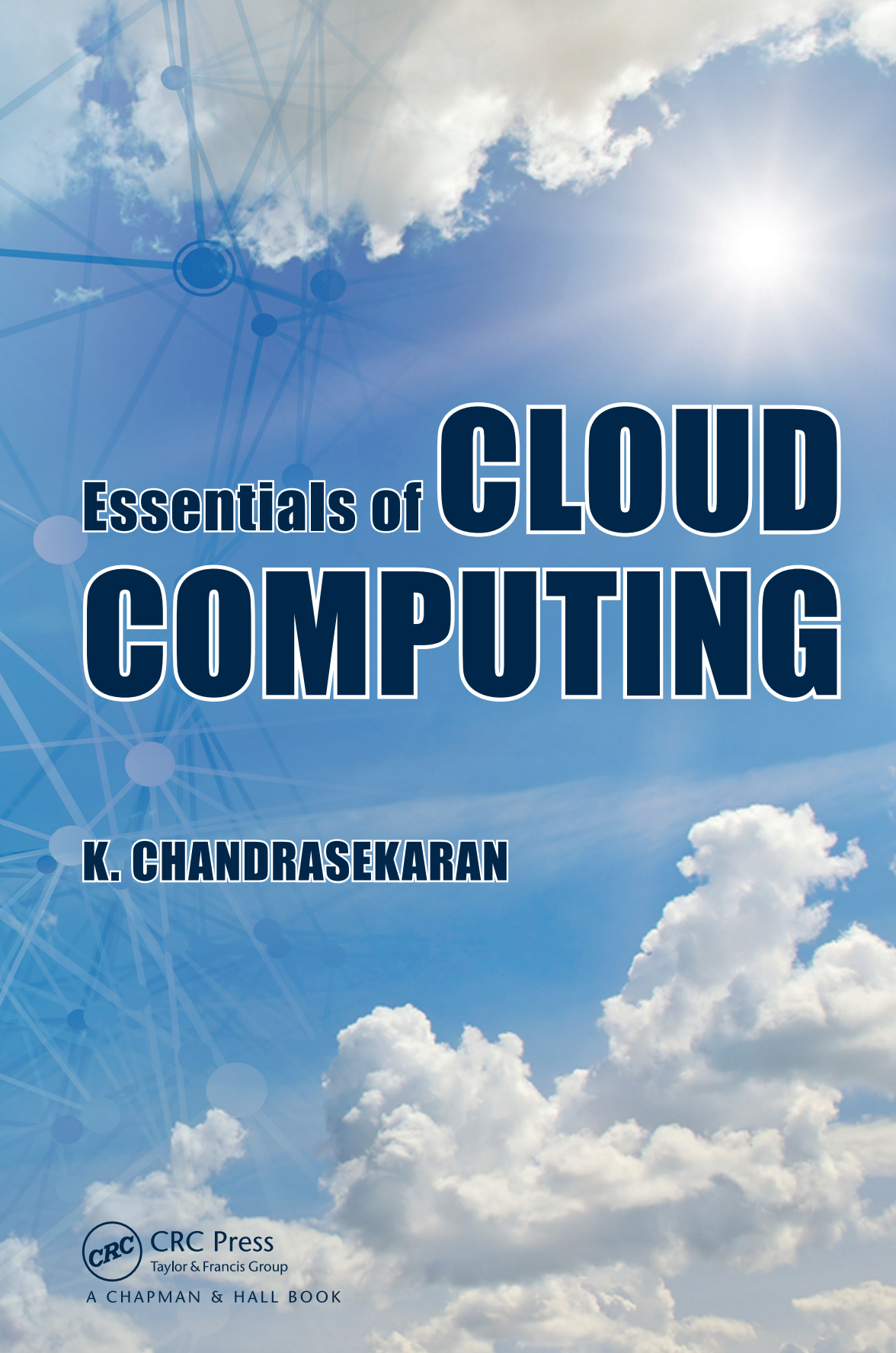
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**K. CHANDRASEKARAN**



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**K. Chandrasekaran**



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## Foreword

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Cloud computing is sprawling the IT landscape. Driven by several converging and complementary factors, cloud computing is advancing as a viable IT service delivery model at an incredible pace. It has caused a paradigm shift in how we deliver, use, and harness the variety of IT services it offers. It also offers several benefits compared to traditional on-premise computing models, including reduced costs and increased agility and flexibility. Its transformational potential is huge and impressive, and consequently cloud computing is being adopted by individual users, businesses, educational institutions, governments, and community organizations. It helps close the digital (information) divide. It might even help save our planet by providing an overall greener computing environment.

Hence, corporations are eagerly investing in promising cloud computing technologies and services not only in developed economies but also increasingly in emerging economies—including India, China, Taiwan, the Philippines, and South Africa—to address a region's specific needs. Cloud computing is receiving considerable interest among several stakeholders—businesses, the IT industry, application developers, IT administrators and managers, researchers, and students who aspire to be successful IT professionals.

To successfully embrace this new computing paradigm, however, they need to acquire new cloud computing knowledge and skills. In answer to this, universities have begun to offer new courses on cloud computing. Though there are several books on cloud computing—from basic books intended for general readers to advanced compendium for researchers—there are few books that comprehensively cover a range of cloud computing topics and are particularly intended as an entry-level textbook for university students. This book, *Essentials of Cloud Computing*, fills this void and is a timely and valuable addition by Professor K. Chandrasekaran, a well-recognized academic and researcher in cloud computing.

The book, beginning with a brief overview on different computing paradigms and potentials of those paradigms, outlines the fundamentals of cloud computing. Then, it deals with cloud services types, cloud deployment models, technologies supporting and driving the cloud, software process models and programming models for cloud, and development of software application that runs the cloud. It also gives an overview of services available from major cloud providers, highlights currently available open source software and tools for cloud deployment, and discusses security concerns and issues in cloud computing. Finally, it outlines advances in cloud computing such as mobile cloud and green cloud. The book's presentation style supports ease of reading and comprehension. Further,



each chapter is supplemented with review questions that help the readers to check their understanding of topics and issues explored in the chapter.

Cloud computing is here to stay, and its adoption will be widespread. It will transform not only the IT industry but also every sector of society. A wide range of people—application developers, enterprise IT architects and administrators, and future IT professionals and managers—will need to learn about cloud computing and how it can be deployed for a variety of applications. This concise and comprehensive book will help readers understand several key aspects of cloud computing—technologies, models, cloud services currently available, applications that are better suited for cloud, and more. It will also help them examine the issues and challenges and develop and deploy applications in clouds.

I believe you will find the book informative, concise, comprehensive, and helpful to gain cloud knowledge.

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Other documents randomly have  
different content





## VII

**I**T would be cruel to dwell upon the sufferings of Norah. She came to consciousness while being carried bodily through the streets by half a dozen of "the finest" in Japan. But she retained consciousness only long enough to give vent to another terrific shriek and then faint again. When next she came to, she was in the "dhirty haythen doongeon," as she termed it. There Mr. Kurukawa found her, secured her release, and took her home.

But the baby! It was only a little after nine when Norah had gone forth so bravely. By five in the afternoon the search for the baby had not ended. Everybody in the village appeared to have had the baby at one time or another through the day. The little one had been passed from house to house as an object of curiosity. Its clothing was a marvel to all Japanese eyes; its blue eyes were extraordinary; its little wisps of yellow hair the most amazing of sights ever seen in the little town; and its milk-white skin positively unreal. Japanese mothers brought their own brown offspring and put them side by side with the little white baby. They patted its little, chubby hands, and put their fingers into its mouth. The latter never failed to please the Kurukawa baby, which immediately fell to sucking the finger greedily. After a time, however, as no milk was forthcoming from the numberless fingers thus offered, the baby became cross.

Then nobody wanted it any longer.

Mr. and Mrs. Kurukawa and a policeman went about the town hunting for the child. The mother was almost prostrated, but insisted on accompanying her husband. As they turned away from each house the mother grew paler and more fearful. Finally the policeman

suggested that they abandon the search until the following morning. It was getting towards night, and the Japanese retire early.

The parents would not hear of this. They would search all night if necessary. The policeman shrugged his shoulders. Very well, he had other duties. As the honorable excellencies could see for themselves, the streets were already almost deserted. Indeed, there were only a few children left yonder in the street. The father and mother turned almost aimlessly towards the place where a number of children were playing skip rope. One little girl after another would jump back and forth over the swinging rope. One girl seemed less nimble than the others. She slipped once, and trod on the rope often. As the Kurukawas came nearer to the group they noticed her because she seemed humpbacked. But the hump upon her back bobbed and moved up and down. When she stopped skipping and came to their side of the rope the hump upon her back moved a bit higher, until it rested against her neck. It was a little baby's head!

Mrs. Kurukawa uttered a faint cry and rushed upon the little girl, pitifully trying to drag the baby from her back. It was sound asleep and seemed perfectly comfortable and none the worse for its late adventures. Mrs. Kurukawa hugged it wildly.

"Oh, my little, little baby!" she sobbed. It opened its sleepy blue eyes and gooded and gurgled softly.

From this time forth the baby became the centre of attraction to all the family. Even Juji seemed to be conscious of its enviable position. Was it not surrounded at all times by the little girls? Was it not hugged and petted in a way he had considered due only to him from his sisters?

He had watched with wonder the queer little plaything ever since it had come into the house. It was no larger than some dolls his sisters had; but when it opened its mouth it could make a noise almost as loud as Juji himself. In fact, its noises and its limbs and everything about it had an absorbing interest for Juji. He began to hang about its vicinity. Norah would discover him pressed up close to

her knee, his little, serious slits of eyes intent upon every movement of the baby.

"Bless his heart," she would say. "Shure the little lamb loves his wee brother. Then give him a nice kiss," whereupon she would put the baby's face close to Juji. The latter would rub his nose against the fat, soft, baby cheek. He must have pondered over his little step-brother, for one night Norah was awakened by strange little sounds in the vicinity of the baby's bed. She reached over in the dark, found and enclosed a little hand in her large one. Then she saw a little figure in bed with the baby. Juji was sitting up and leaning over the baby. In his hand was a bottle, the end of which was thrust into the baby's mouth!

Norah was too astonished at first to do anything but watch the child. Then she seized him.

"You lamb!" said she. "If you aren't the swatest haythen, shure I don't know who is!"

"Opey mouth," said little Juji, in English, and pushed the bottle towards Norah's lips.

He had seen the nurse-maid do this with the baby, and had heard her say:

"Opey mouthie, lovey!"

He had found the bottle, and while all were asleep and there was no one to interfere with him, he had sought to feed his baby step-brother.





## VIII

MARION came flying into the garden, her cheeks aglow, her bright eyes dancing.

"Iris—Blossom!" she called, excitedly.

She could hardly get her breath to tell them the great news. In her hand she waved aloft a sheet of paper.

"What ees't?" asked Plum Blossom, puzzled.

"A letter," cried Marion. "Guess who from?"

"Gozo," both answered at once.

Marion nodded.

"Right," she said, "and to me!—*me!*" She began dancing airily about, waving the letter triumphantly and then caressing it.

Iris shrieked the news across the garden to Taro, pirouetting on his beloved pole. He leaped down and came running to join them.

"Why he ride unto *you?*" demanded Plum Blossom, enviously.

"Well, now, I'll tell you," confided Marion, sweetly. "You know ever since we've been here I've heard nothing but Gozo, Gozo, Gozo, from you all. Goodness! you never speak a sentence without 'Gozo' in it. Well, *I* began to think him a real hero, and I just longed to *know* him. Besides"—she lowered her voice—"I did think he ought to be warned about that—about Summer!"

"About Summer?" repeated Plum Blossom, hazily.

"We kinno understan'. You spik so fast."

"Oh, dear, don't you see? Why, she's not good enough for a *hero*—now is she?"

"Wha's 'hero'?" asked Taro, disgustedly. Had they brought him from his favorite sport merely to bother him with words he could not understand.

"A hero is—is—well, he's something *grand*!"

Iris yawned sleepily. She had forgotten all about the letter and now was lying on the grass blinking sleepily at the blue sky overhead.

"You're not listening, Iris," said Marion, frowning upon her and forcing her to get up.

"Don't you want to hear Gozo's letter?"

"Yes, yes—spik it," urged Plum Blossom.

"But I didn't finish what I was saying—explaining *why* he wrote me. Don't you see, *I* wrote to him first. Yes, I did, too, I wrote him the longest letter, and I told him about you all—and—and—can he read English?"

Billy had joined the group, and he spoke up now:

"Ah, sis, go on now—read his answer. What's he say?"

"But I can't read it. See, it's in Japanese."

"You read it, Taro."

"Me?" Taro seized the letter, and began laboriously reading it in Japanese.

"Well, well, what does he say?" asked Marion, excitedly.

Plum Blossom looked over her brother's shoulder and translated in this wise:

"M-M-MADAME,—Your letter got—

"Yours truly forever,

"KURUKAWA GOZO."

"Is that all?" inquired Marion, blankly, her blue eyes filling with tears.

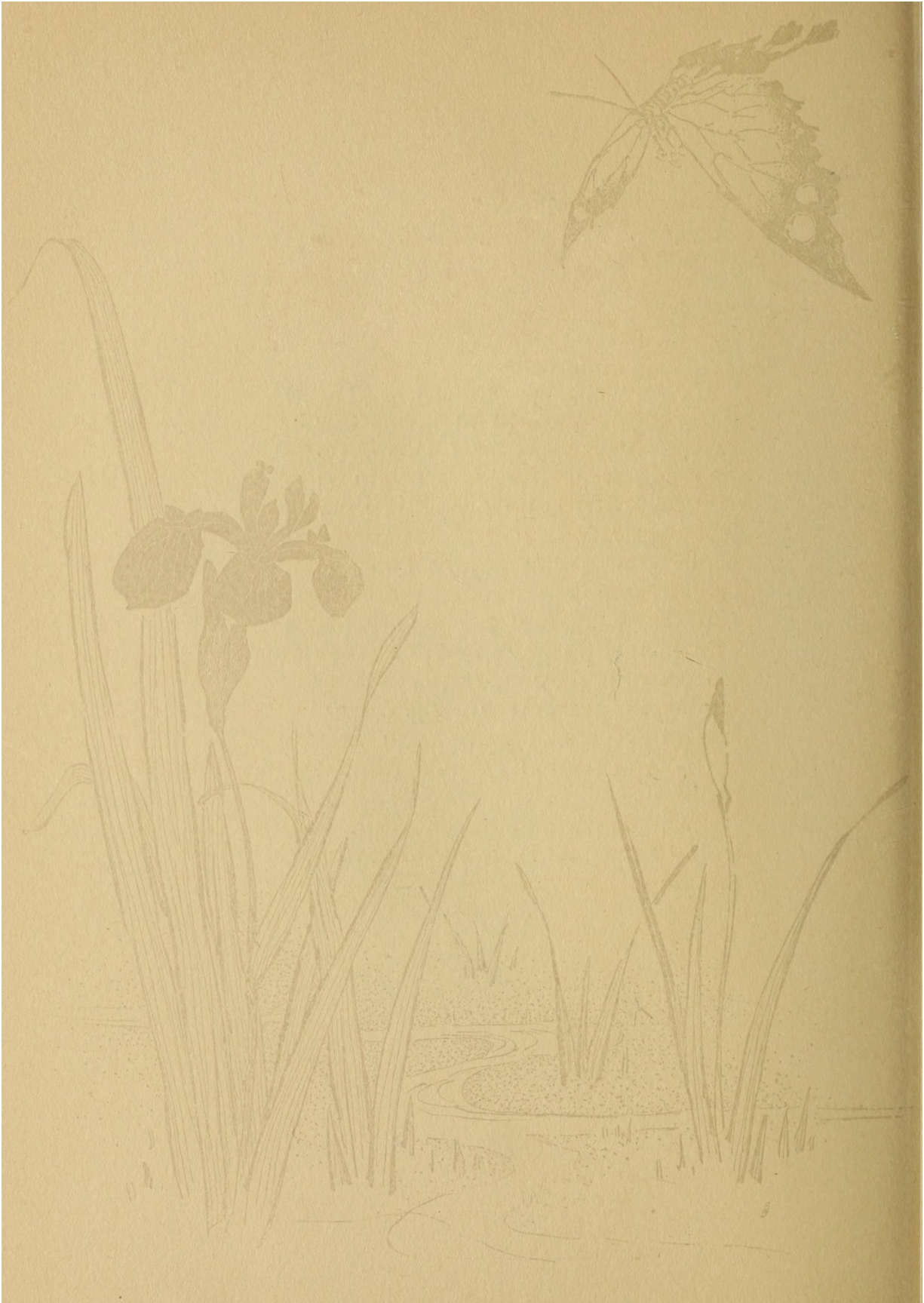
"Postscript," shouted Taro, then read it: "Write agin, thangs!"

Marion pouted and sat down in deep dejection.

"Well, I won't do it, if *that's* the way he answers *my* letters."

She took the letter and went to her mother.









## IX

ON the 15th of April the children dressed themselves in pink-and-white kimonos, simulating cherry blossoms, and strolled abroad for *hanami* (flower picnic). They had been looking forward to this delightful occasion for weeks. The costumes had been prepared by their grandmother some days in advance of the festival. Even Marion had a little, white crêpe kimono embroidered with the pale pink flower, and with the sash or obi of the same shade. She made quite a picture, as with her eyes dancing and shining she came running into the garden to join her step-sisters. The wings of the dainty sleeves of her dress fluttered back and forth. Her cheeks were the color of the cherry blossom, and the golden crown of her hair, drawn up into the Japanese fashion, glistened in the sun. Plum Blossom wore a crêpe silk gown of deep pink, shading at the ends to white. The sash was white with pale green leaves and stalks embroidered on it. Iris, too, was in pink, and the bow of her obi was tied to imitate a cherry blossom. The three little girls had flowers in their hair—cherry blossoms, of course. They waited now in the garden for their brothers and parents. As the festival was new to Marion, she was the most eager of the girls.

From above their heads a voice rang out:

"Here, you, girls! get your masks and petals ready."

"Where are you, Billy?" called Marion, looking everywhere about them.

"Here—up in the tree."



He was perched in an old cherry-tree, where with vandal hand he was plucking the blossoms.

"O-o-oo!" exclaimed Plum Blossom. "You ba' boy! No can pig flower. Tha's nod ride!"

"Why, father *said* we were to fill our sleeves—get all we could," called down Billy.

"Yes, pig from ground," said Plum Blossom; "never mus' pig from tree."

"Billy, you vandal, what are you doing up there?"

Mr. Kurukawa had joined the children in the garden. He, too, was in Japanese dress.

"Why," said Billy, "you said—"

"Now, my boy, come down."

Very promptly Billy obeyed.

Taking his step-son by the hand, Mr. Kurukawa taught him a lesson known to all Japanese children.

"Never pluck the flowers wantonly, least of all the sacred cherry blossom. When you wish the flower in your house, pluck out one branch, one flower. See, you have filled the front of your kimono, your sleeves, and your obi with the blossoms. Look at them!"

He held up the crushed branches to view. They drooped almost reproachfully at Billy.

"But, father," he began again. "You did tell me—"

"To gather all the cherry-blossom petals you could. See, the ground is thick with them."

"But they are all apart. They have no stalks."

Mr. Kurukawa stooped and filled his hands full of petals. He held them a moment and then lightly tossed them into the air.

"*That* is how we want them, boy. We use them like confetti. Now fill all your sleeves, children. Get as many as you can, and then we'll start."

Soon the long sleeves of their dresses were filled with the petals, and hung like little pillows. Mrs. Kurukawa was the last to join the merry party. All the children helped her to fill her sleeves, for she, too, wore the national kimono.

"Here are your masks, children," said the father. With laughing chatter they fastened on the grotesque masks and clambered into the jinrikishas. It was a joyful day.

They passed numbers of picnickers, and exchanged showers of cherry-blossom petals with them.

They ate a delicious luncheon under a tree fairly weighted down with the heavenly flower. While they were in the midst of their repast, Taro and Billy mounted into the tree and shook it till the lunch was almost hidden under the petals, and the heads of all were crowned in cherry pink.

The petals they slipped into their food purposely, declaring that it added a delicious taste. Then the children played battledore and shuttlecock. Later, there being a pleasant wind, Mr. Kurukawa sent up a kite. Billy was permitted to hold the string. This was great fun, especially when Taro's kite had a race with Billy's, and finally won. By four in the afternoon they were all so refreshingly tired that nobody wanted to go home, and soon "father" was besieged for a story.

"Make it modern, father," said Billy, "for we like that kind best."

"Well, let's see. What shall it be about?"

"War," shouted Taro.

For a while there was silence, and Mr. Kurukawa looked very grave. He was thinking of Gozo.

"Very well," said he, after a moment's thought. "I will tell you a true story of to-day which has to do with a war."

"Make it very, very long, father," said Plum Blossom.

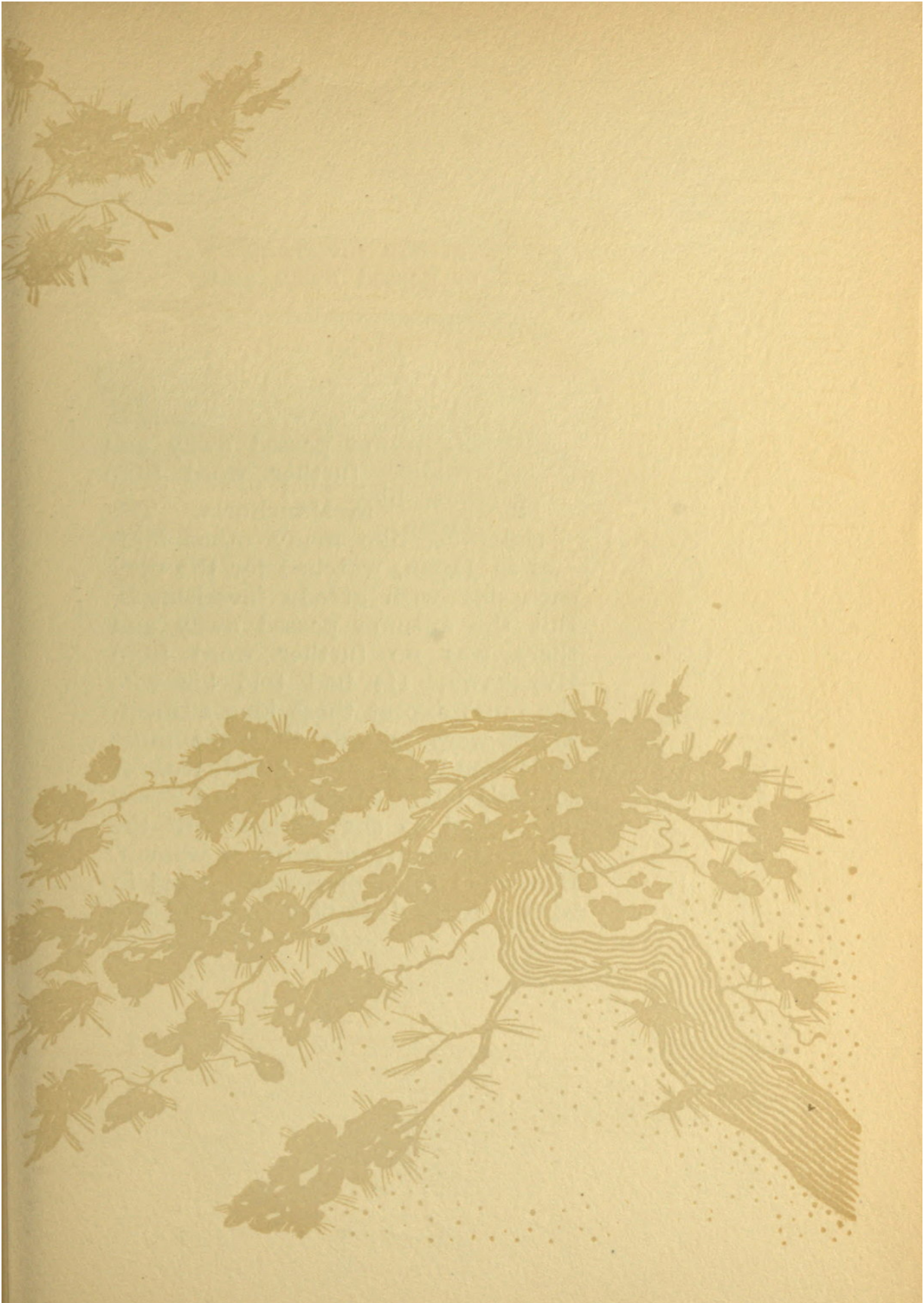
"And exciting," said Taro.

"With a little girl in it," said Iris.

"No, no, a liddle boy," growled Juji.

"It's about a little woman," said Mr. Kurukawa, "and she was called 'The Widow of Sanyo.'"







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